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Data mapping on ageing in low- and middle-income countries in Asia and the Pacific

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Analytical Report

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LIST OF FREQUENTLY USED ABBREVIATIONS

CHARLS	China Health and Retirement Longitudinal Study
CLHLS	Chinese Longitudinal Healthy Longevity Survey
DHS	Demographic and Health Survey
ELSA	English Longitudinal Study of Ageing
HART	Panel Survey and Study on Health, Ageing, and Retirement in Thailand
HDSS	Health and Demographic Surveillance System
HRS	Health and Retirement Study
IFLS	Indonesia Family Life Survey
INDEPTH	Network of Health and Demographic Surveillance Systems
IPUMS	Integrated Public Use Microdata Series
LASI	Longitudinal Ageing Study in India
SAGE	Study on Global Ageing and Adult Health
SHARE	Survey of Health, Ageing and Retirement in Europe
SOPT	Survey of Older Persons in Thailand
UNFPA	United Nations Population Fund
WHO	World Health Organization

EXECUTIVE SUMMARY

Population ageing is an increasingly important demographic, social, and economic issue for researchers and policy makers throughout developing Asia prompting a need for data to monitor change and formulate evidence-based policies. There have been increasing endeavors in the Asia-Pacific region to collect information specifically related to older persons through representative surveys. These surveys are either broadly comprehensive or focus on particularly important domains, especially health. However, there is no systematic accounting of what the datasets address; to what extent different sources overlap or complement one another; how comparable they; and what data gaps remain. In addition, other data sources not specifically directed towards the older population can be useful in providing relevant information.

Commissioned by HelpAge International with funding from UNFPA, this study documents the existence of data related to ageing issues as provided by surveys of older persons, censuses, and Demographic and Health Surveys (DHS) for 25 low- and middle-income Asia-Pacific countries, namely Bangladesh, Bhutan, Cambodia, China, Cook Islands, DPR Korea, Fiji, India, Indonesia, Iran, Lao PDR, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Pakistan, Palau, Philippines, Solomon Islands, Sri Lanka, Tonga, Thailand, Tuvalu, and Vietnam. The study was conducted by Bussarawan Teerawichitchainan of the School of Social Sciences, Singapore Management University; and John Knodel of the Population Studies Center, University of Michigan.

Section 1 describes the objectives and scope of the report. A review of the demographic background in the 25 countries in section 2 reveals that surveys focusing on older persons tend to be carried out where population ageing is most advanced. This suggests that in countries where the share of the population in older ages is modest there is less interest with issues related to older persons. Yet countries with the lowest proportion of the population in older ages and most modest projected increases in this proportion nevertheless are projected to experience greater proportionate increases in the absolute number of older persons than those with more rapid population ageing. Burgeoning numbers of older persons will pose major challenges to the health, welfare and other support systems and thus deserve attention even if their share of the total population remains modest.

In section 3 the authors systematically evaluate the content of data sources for the period from 2000-2014. Censuses were taken in all but Pakistan. DHS are available for 16 of the 25 countries. Both censuses and DHS provide information on the basic socio-demographic characteristics of older persons and of the households in which they live. Censuses also typically ask about disability status. Only 10 countries have comprehensive surveys of older people. Bangladesh, Cambodia, Indonesia, Maldives, Myanmar, the Philippines and Vietnam had one survey since 2000. India has had two, and China and Thailand have had multiple

ageing surveys during this period. Some of the surveys are part of broader collaborations to build data infrastructure. The first, led by the World Health Organization, is the Study on global ageing and adult health (SAGE), involves longitudinal surveys focused on health. The second are broad aging surveys conducted in junction with the US-based Health and Retirement Study (HRS).

Section 4 shows the key data gaps across the region and a need for more longitudinal data is noted. In the health domain, information on biomarkers, cognitive testing, and mortality are usually unavailable in current surveys. While the surveys attempt to capture economic activities of older people, the reasons for ceasing employment and retiring completely is not fully explored. Regarding income, often surveys capture this with just a few questions, though more detailed questions on revenues and expenditures would give a more accurate picture of income and consumption. The economic status of a household is a more appropriate indicator of material wellbeing than individual income. For family support, generally only limited information about monetary support received from family members, especially children, is asked and sometimes other types of support are probed as well. More rarely, the support and contributions that older people provide to their family and households are considered. Elder abuse is understudied and based on self-reports that may be influenced by a reluctance to report abuse by family members.

Section 5 looks at data comparability and accessibility. Comparability is far easier when surveys are part of an international collaboration but is also feasible for those conducted independently. Some data sets are made publicly available. There is a trend to increase public access although historically this has not typically been the case.

Section 6 describes good practices for data collection.

1) Promote contact from the beginning of the research process between those that conduct research on ageing and those that utilize the results.
2) Ensure that the design and implementation produces objective data and analysis.
3) Hold dissemination events.
4) Make data available to potential users.
5) Harmonize questionnaires to facilitate comparative analysis
6) Ensure data collection include modules to address specific issues of critical national interest.
7) Repeat ageing surveys periodically and adjust content to changing contexts.
8) Utilize relevant data available from surveys that do not focus on older persons.

Section 7 concludes that surveys of older persons are useful for evidenced-based policy formulation even in countries where population ageing is modest and recommends the following:

- The characteristics and situation of older persons should be routinely included as one topic in thematic reports that typically are issued following a census
- Public use samples of census data should be made widely available to permit customized analyses of the older population

- DHS should add a short module concerning the health of older persons
- It is possible to expand existing longitudinal surveys not specifically designed to study ageing to cover issues pertaining to older persons
- Funding agencies and donors should encourage careful documentation of ageing survey methodology (including sufficient information about sampling frame and procedure)
- Gender analysis should incorporate issues specific to men as well as to women
- International organizations and NGOs such as the UNFPA, World Bank, and HelpAge International can and should play a significant role in fostering communications among researchers in the Asia-Pacific region.

Accompanying the main report are three Excel files providing data mapping details for three main categories of data sources:

- Ageing surveys
- National censuses
- Demographic and Health Surveys

These files can be accessed through our website: http://ageingasia.org/data-mapping/.

1. OBJECTIVES AND SCOPE OF THE STUDY

Population ageing has become an increasingly important demographic, social, and economic issue around the world, including developing countries in Asia and the Pacific. One of the concerns is the lack of a scientific data infrastructure that can inform key life domains at older ages, including health status and healthcare, work, economic resources, and the role of family support for older persons. Without adequate data infrastructure, it is difficult or impossible to monitor the key changes in these life domains as people age and how the various life domains mutually influence each other (Smith, 2012). Such data inadequacy also prevents policy makers from formulating evidence-based policies to address the situation of older persons as it changes over time.

Within the last decade and a half, there have been increasing endeavors at international, national, and local levels in the Asia-Pacific region to collect information specifically related to older persons through reasonably representative surveys of the older-age population[1]. These surveys tend to be either broadly comprehensive covering a wide range of life domains or at least comprehensive of particularly important domains, especially ones related to health. However, there is no systematic accounting of what the resulting datasets have addressed; to what extent different sources overlap or complement one another; how comparable they are within the same country and cross-nationally; and what data gaps remain. In addition, there are other sources that are not specifically directed towards the older population but can be useful in providing information about it. The most obvious are the national censuses which have information about persons of all ages including those in older ages. There are also numerous types of surveys of representative samples that either cover all ages or at least include household listings which provide limited information on members of all ages. In addition to reviewing censuses, we have selected to review the Demographic and Health Surveys (DHS) as one of the most important examples from this latter group. Moreover, the relatively easy accessibility of census and DHS questionnaires facilitated our review of their content.

Commissioned by HelpAge International with funding from UNFPA, this study aims to document the existence of data related to ageing issues as provided by surveys of older persons, censuses, and DHS for 25 low- and middle-income Asia-Pacific countries, namely Bangladesh, Bhutan, Cambodia, China, Cook Islands, DPR Korea, Fiji, India, Indonesia, Iran, Lao PDR, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Pakistan, Palau, Philippines, Solomon Islands, Sri Lanka, Tonga, Thailand, Tuvalu, and Vietnam. Thus this report covers a large majority of low- and middle-income countries in the Asia-Pacific

[1] In this report, we use "surveys of older persons" interchangeably with "ageing surveys".

region. Using a systematic review approach, we evaluate the content of data sources and assess their comparability. We also showcase best practices in data collection for various life domains at older ages (e.g., health status in later life and intergenerational exchanges) and identify gaps in survey data collection related to ageing issues in the Asia-Pacific region.

As for the scope of our data mapping exercise, we restrict our review of surveys of older persons that are reasonably representative and comprehensive in topics covered. For ageing surveys as well as for DHS and censuses we limit our consideration to those conducted between 2000-2014 in the 25 countries. First, we start by reviewing DHS and national censuses, both of which are important even though they do not specifically target older persons as main respondents. Not only are they widely known but their questionnaires are largely accessible and also importantly in the case of the DHS the data sets are also mostly readily available. Our third data source, representative ageing surveys conducted with older persons as the focal interest clearly provide the most comprehensive set of information about the older population and in this sense are the most important source. While our review of ageing surveys is by no means exhaustive, our study covers all major comprehensive ageing surveys, except for the Longitudinal Ageing Study in India (LASI)[2] since we are unable to access its questionnaire. We also exclude specific/thematic ageing studies; nevertheless, we make references to some of these studies where appropriate. Furthermore, we recognize that labor force surveys and surveys related to household living standards, income, and expenditure have gathered information about household members aged 60 and older and can potentially inform researchers and policy makers about the situation of older persons, especially regarding the economic domains. Other potentially useful sources include administrative data such as pensions and health records. These sources are not included in our study due to the time restriction of our data mapping project and the greater difficulty in accessing their documentation relative to DHS and censuses.

[2] LASI is one of the related surveys of the Health and Retirement Study. Since we review other related HRS surveys in Asia, including the ones in China, Indonesia, and Thailand, we can safely assume that the content is by and large not significantly different. We received only the pilot questionnaire of the LASI, which arrived after we had completed our analysis for the report and therefore, we do not include the survey in this study.

2. DEMOGRAPHIC BACKGROUND

Among the 25 countries covered in our study, population ageing is more acute in some countries than others. Much focus has been given to countries where proportions of population aged 60 and older have grown rapidly in recent years and are expected to grow even faster in the coming decades. For instance, according to the 2012 UN Population Division estimates and projections, the proportion of Thailand's population aged 60 and older has grown rapidly from 10% of the total population in 2000 to 16% in 2015, while similarly in China it has grown from 10% to 15% during the same time rendering the two countries most advanced in population ageing currently (Table 1). Moreover, the Thai population aged 60 and over is anticipated to reach 38% by the mid-21st century, while in China a third of the population will be in this age range. In contrast, with only a few exceptions, in 2015 most of the other countries have less than 10% of the population aged 60 and older and in several the percentages are substantially lower.

Table 1. Percent population and number of persons aged 60 and older in 25 Asia-Pacific countries, 2000-2050.

Country	Percent persons 60+				Numbers of persons 60+ in 1000s		
	2000	2015	2030	2050	2015	2050	% increase 2015-2050
Bangladesh	6.2	7.1	11.7	22.3	11,451	45,002	393
Bhutan	5.9	7.3	11.1	23.5	56	230	411
Cambodia	5.7	8.3	12.8	21.2	1,308	4,775	365
China	10.0	14.9	23.8	32.8	209,012	454,360	217
Cook Islands	n.a	12.1 (2011)	n.a	n.a	n.a.	n.a.	n.a.
DPR Korea	10.2	12.5	19.4	24.9	3,149	6,733	214
Fiji	5.7	9.2	14.4	19.7	83	181	218
India	6.9	8.8	12.3	18.3	112,301	296,559	264
Indonesia	7.3	8.6	14.1	21.1	21,885	67,738	310
Iran	6.2	8.7	14.8	29.4	6,890	29,616	430
Lao PDR	5.5	6.0	8.3	15.7	423	1,662	393
Malaysia	6.2	9.1	14.2	23.1	2,776	9,747	351
Maldives	6.3	6.9	12.3	25.8	25	130	520
Mongolia	5.6	6.2	11.5	19.8	182	743	408
Myanmar	7.0	9.0	14.1	22.3	4,879	13,049	267
Nepal	6.0	8.1	11.3	18.1	2,316	6,610	285
Pakistan	6.0	6.6	8.9	14.8	12,450	40,042	322
Palau	n.a	9.5 (2011)	n.a	n.a	n.a.	n.a.	n.a.
Philippines	5.1	6.8	9.6	13.7	6,949	21,535	310
Solomon Islands	4.4	5.2	6.8	10.6	30	107	357
Sri Lanka	9.3	13.4	19.7	25.7	2,896	6,119	211
Thailand	9.9	15.8	27.0	37.5	10,632	23,148	218
Tonga	8.3	8.1	10.5	13.0	9	18	200
Tuvalu	8.7 (2002)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Vietnam	8.6	10.4	18.3	30.6	9,695	31,699	327

Sources: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2012 Revision. Medium Variant. Retrieved from http://esa.un.org/unpd/wpp/index.htm; Cook Islands, Tuvalu, Palau information from United Nations Population Fund, Pacific Sub-Regional Office, Population and Development Profiles Pacific Island Countries. Retrieved from http://countryoffice.unfpa.org/pacific/drive/PDProfiles23Feb12.pdf

These differences are largely attributed to the timing and extent of fertility decline during recent decades, which is the predominant driving force of population ageing in most cases. For example, both Thailand and the Philippines had total fertility rates of over six children per woman in the 1960s yet by 2010-15, fertility had fallen to only 1.4 in Thailand but was more than twice this level in the Philippines, thus accounting for the substantially more advanced population ageing in the former than the latter.

There is a tendency to assume that ageing issues are not important for countries with relatively low percentages of older persons. This ignores the fact that even if population ageing is not increasing dramatically, in most cases the numbers of older persons will be. The Philippines provides a striking example of this. Despite the lower current level of population ageing and the much more modest anticipated increase in the Philippines compared to Thailand, the absolute number of the older population in the Philippines is anticipated to more than triple between now and 2050 while in Thailand it will only slightly more than double (also shown in Table 1). Despite maintaining a relatively young age structure, the absolute number of older persons in the Philippines will pose an acute challenge for the country's health and other support systems.

Another striking feature of the populations of these countries is the trend in the potential support ratio of older persons calculated as the ratio of persons in working ages (15-64) to persons mostly past working ages (65+). In a large majority of the countries the support ratio has already declined between 2000 and 2015 and in all of them is anticipated to decline very substantially between now and mid-century (Table 2). Between 2015 and 2050 in all but a few countries the ratio will decline by more than half and quite a few by two thirds or more. By 2050, there will be only 2 working-age Thais for every person aged 65 and over. Meanwhile, in China, Iran, and Vietnam the potential support ratio will fall to fewer than 3 working-age adults for every person aged 65 and older.

Table 2. Potential support ratios (the number of working-age persons per one older adult aged 65 and older) in 25 Asia Pacific countries, 2000-2050.

Country	Year				% decline 2015-2050
	2000	2015	2030	2050	
Bangladesh	14.5	13.6	9.1	4.1	-70%
Bhutan	14.3	13.5	9.6	4.0	-70%
Cambodia	14.4	11.2	7.1	3.9	-65%
China	9.8	7.7	4.2	2.6	-67%
Cook Islands	n.a.	n.a.	n.a.	n.a.	n.a.
DPR Korea	11.5	7.3	5.6	3.4	-53%
Fiji	17.8	11.2	6.5	4.4	-61%
India	14.1	12.1	8.3	5.3	-56%
Indonesia	13.9	12.3	7.4	4.1	-66%
Iran	14.5	12.7	7.0	2.9	-77%
Lao PDR	14.7	16.0	11.9	6.5	-59%
Malaysia	16.4	12.0	7.0	4.0	-67%
Maldives	15.0	13.3	8.4	3.6	-73%
Mongolia	16.8	17.9	9.5	4.9	-72%
Myanmar	13.6	13.0	7.7	4.3	-67%
Nepal	14.8	11.6	9.0	5.4	-54%
Pakistan	13.8	14.2	11.4	7.2	-49%
Palau	n.a.	n.a.	n.a.	n.a.	n.a.
Philippines	18.0	15.3	10.2	7.1	-53%
Solomon Islands	19.0	16.7	14.4	8.6	-48%
Sri Lanka	10.7	7.3	4.6	3.0	-58%
Thailand	10.5	6.9	3.4	1.9	-73%
Tonga	9.2	10.2	8.3	6.2	-39%
Tuvalu	n.a.	n.a.	n.a.	n.a.	n.a.
Vietnam	9.7	10.4	5.4	2.7	-74%

Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2012 Revision. Retrieved from http://esa.un.org/unpd/wpp/index.htm

3. OVERVIEW OF DATA MAPPING RESULTS

Availability of data sources on ageing

In this section, we describe the extent to which DHS, censuses, and surveys of older persons are available for each of the 25 countries. Table 3 summarizes specific years (during 2000-2014) that DHS and censuses were conducted for each country and shows official titles and years in which ageing surveys were carried out during the same time period. For surveys of older persons, we present only the surveys that we have an access to the questionnaires.

Table 3. Availability of data for 2000 – 2014 related to ageing issues from three major sources: DHS, Census, and ageing surveys in 25 Asia-Pacific countries

Country	DHS	Census	Ageing surveys
Bangladesh	2004, 2007, 2011, 2014	2001, 2011	Survey on Population Ageing in Bangladesh, 2014
Bhutan	-	2005	-
Cambodia	2000, 2005, 2010, 2014	2008	Cambodia Elderly Survey, 2004
China	-	2000, 2010	China Health and Retirement Longitudinal Study, 2008, 2011, 2013; Chinese Longitudinal Healthy Longevity Survey 2000, 2002, 2005, 2008-9, 2011-12; Longitudinal Study of the Elderly in Anhui Province, 2001, 2003, 2006, 2009, 2012; Study on Global Ageing and Adult Health (SAGE), 2007-8, 2014
Cook Islands	-	2001, 2006, 2011	-
DPR Korea	2014	2008	-
Fiji	-	2007, 2012	-
India	2005-6, 2014-15	2001, 2011	Study on Global Ageing and Adult Health (SAGE), 2007-8, 2014
Indonesia	2002-3, 2007, 2012	2000, 2010	WHO-INDEPTH SAGE Purworejo HDSS, 2006-7; Indonesia Family Life Survey, 2007
Iran	-	2006, 2011	-
Lao PDR	2011-12	2005	-
Malaysia	-	2000, 2010	-
Maldives	2009	2000, 2006, 2014	Maldives Demographic and Health Survey (HH questionnaire), 2009
Mongolia	2008	2000, 2010	-

Table 3 (cont.)

Country	DHS	Census	Ageing surveys
Myanmar	-	2014	Myanmar Ageing Survey, 2012
Nepal	2001, 2006, 2011	2001, 2011	-
Pakistan	2006-7, 2012-13	None (but planned for 2016)	-
Palau	-	2005	-
Philippines	2003, 2008, 2013	2000, 2010	Philippines Longitudinal Study of Ageing, 2007
Solomon Islands	2007	2009	-
Sri Lanka	2006-7	2001, 2011	-
Thailand	-	2000, 2010	National Survey of Older Persons in Thailand, 2002, 2007, 2011, 2014; Panel Survey and Study on Health, Ageing, and Retirement in Thailand, 2009, 2013-14; Survey of Health Status in Four Regions of Thailand, 2006; Survey of Risk Factors for Older Thais, 2006
Tonga	2012	2006, 2011	-
Tuvalu	2007	2002, 2012	-
Vietnam	2002, 2005	2009	WHO-INDEPTH SAGE FilaBavi, 2006-7; Vietnam Ageing Survey, 2011

Note: For multi-year surveys, we choose to examine the questionnaire of the latest available year. The latest available year is underlined.

Population census usually carried out by a national statistical office is available for 24 countries. Pakistan is the only exception among the countries covered that did not conduct a census during 2000-2014. Its last census was in 1998 and currently plans to conduct a new census in 2016. Moreover, out of the 25 countries, 14 of them had two censuses carried out during this time period, whereas two countries, namely Cook Islands and Maldives, conducted 3 census enumerations. Eight countries have one census taken. Interestingly, the census of Myanmar was conducted most recently in 2014. It is the country's first population census in more than three decades with the previous census taken in 1983. For most countries, censuses are enumerated every 10 years.

At the time of writing (March 2015) microdata samples of at least one census during 2000-2014 are available at no charge for 11 of the countries covered in this project from IPUMS-International[3] (https://international.ipums.org/international/). These include the most recent censuses for four of the countries (Bangladesh, Cambodia, Indonesia, and Vietnam) and the next to most recent censuses since 2000 in the other seven (Fiji, India, Iran, Malaysia, Mongolia, Philippines, and Thailand). In addition to IPUMS, another good source for information about census is each respective country's national statistical office website. These statistical offices usually publish online results from censuses (in a volume of tables). In some countries such as Malaysia, census questionnaire forms are also available for downloads.

Compared to censuses, DHS are available for 16 the 25 countries. Nevertheless, many of the countries with DHS tend to be those with relatively low percentages of older persons (i.e., relatively high fertility) and have multiple DHS surveys conducted within the time period under consideration. Bangladesh and Cambodia each had 4 DHS taken, whereas Indonesia, Nepal, Pakistan, and the Philippines had three. Countries with one or two DHS are DPR Korea, Lao PDR, Maldives, Mongolia, Solomon Islands, Sri Lanka, Tonga, Tuvalu and Vietnam. For many but not all the DHS were carried out in association with the DHS Program funded through the USAID and other organizations. Also, several others have conducted surveys virtually identical to the DHS but not as part of the DHS program. These include the DHS for Solomon Islands, Tonga and Tuvalu which were sponsored by the Asian Development Bank (ADB)/Secretariat of the Pacific Community (SPC) Pacific Demographic and Health Surveys Project as well as the DPR Korea survey sponsored by UNFPA. Note that Maldives DHS is unique for the fact that there is a module asking specifically about information pertaining to persons aged 65 and older. Therefore, in this study, we review Maldives DHS together with other surveys of older persons.

Among the 25 countries covered, representative and fairly comprehensive surveys of older persons are much less common than censuses and DHS. Fifteen countries do not have such ageing surveys. These countries are Bhutan, DPR Korea, Iran, Lao PDR, Malaysia, Mongolia, Nepal, Pakistan, Sri Lanka, and all of the 5 Pacific Island countries. Among the countries with nationally representative ageing surveys, many of them (Bangladesh, Cambodia, Indonesia, Maldives, Myanmar, the Philippines, and Vietnam) have only one such survey conducted since 2000. China and Thailand are unique in the sense that there are multiple ageing surveys conducted during 2000-2014. For China, longitudinal/panel studies

[3]IPUMS-International is a project housed at the University of Minnesota dedicated to compiling, harmonizing, and distributing census microdata from around the world.

are common, including the China Health and Retirement Longitudinal Study (CHARLS), the Chinese Longitudinal Healthy Longevity Survey (CLHLS), the Longitudinal Study of the Elderly in Anhui Province, and the Study on Global Ageing and Adult Health (SAGE). Meanwhile, a majority of the Thai surveys are cross-sectional, except for the Panel Survey and Study on Health, Ageing, and Retirement in Thailand (HART). It is important to note that results for the Survey of Older Persons in Thailand (SOPT) conducted by Thailand's National Statistical Office are available for 1994, 2002, 2007, 2011, and 2014 and two other nationally representative surveys of older persons were carried out by a university organization in 1986 and 1995. Thus they permit a time-series analysis of changes in the situation of older Thais. More information about each survey of older persons covered in our data mapping project (e.g., sample size, age ranges of respondents, and sampling strategy) is provided in Annex 1.

Some of the ageing surveys available in the countries covered are a part of the two ongoing international collaborations to build data infrastructure to address issues related to global ageing. The first collaboration, led by the World Health Organization, is the SAGE studies in China and India, which cover nationally representative samples of persons aged 50 and older; are longitudinal; and focus on health (WHO, 2015). Two other SAGE studies conducted in Indonesia and Vietnam in collaboration with the INDEPTH Network cover only older-aged populations in two demographic surveillance sites, namely Purwojero Health and Demographic Surveillance System (HDSS) in Indonesia and FilaBavi HDSS in Vietnam (Kowal et al., 2010). Thus, they are not nationally representative. Furthermore, the second collaboration refers to the US-based Health and Retirement Study (HRS) conducted in China (CHARLS), Indonesia (the Indonesia Family Life Survey, IFLS), Thailand (HART), and India (LASI) (Smith & Majmundar, 2012). The IFLS was not originally designed to specifically address ageing issues but its fourth wave conducted in 2007 was expanded to include the questions being asked in the HRS. Since the IFLS is longitudinal, the 2007 survey data can be linked to earlier rounds. The IFLS thus has the advantage of having detailed information about the now elderly respondents when they were younger.

Figure 1. Number of ageing surveys for 2000-2014 by proportions population aged 60 and older in 25 Asia-Pacific countries.

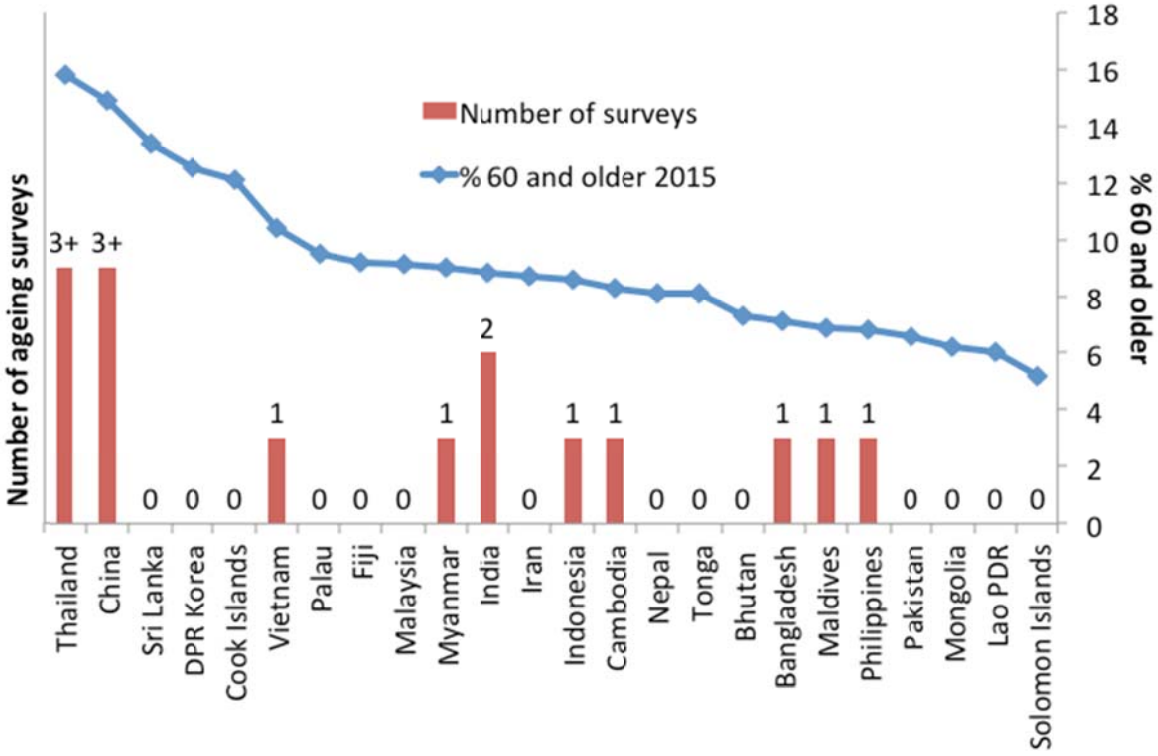


Figure 1 shows the number of (nationally representative) ageing surveys by countries ranked from the highest percentages of persons aged 60 and older to the lowest percentages. While Thailand and China have the two highest rates of population ageing at present (16% and 15% respectively) and are expected to age the fastest in the next few decades, they have more existing ageing surveys than other low- and middle-income countries in Asia and the Pacific. In general, countries with lower percentages of older persons tend to have fewer surveys probably because policy makers do not recognize the need for such a data collection effort. It is important to note that in several countries with relatively high proportions of older persons such as Sri Lanka (13%), DPR Korea (13%), and Cook Islands (11%) there are still no ageing surveys.

As mentioned earlier, we choose to review three specific data sources: DHS, censuses, and ageing surveys for this particular project. However, we recognize that there are other noteworthy studies and surveys that are beyond the scope of our study. For example, labor force surveys which are available in 20 out of the 25 countries can be a potential source for addressing economic activity among older persons. Furthermore, living standards surveys, income and expenditure surveys, or socio-economic surveys can be useful for understanding consumption and income security of the elderly. Nevertheless, these data sources are much less accessible compared to DHS and censuses. In addition, it is important to note that in

certain countries such as Malaysia where there are no nationally representative surveys collected specifically with elderly as main respondents, numerous noteworthy studies on ageing issues have been conducted by various agencies such as the Institute of Gerontology, Universiti Putra Malaysia (2011). In Pakistan, noteworthy reports include a pilot study conducted in 2013 to examine the livelihoods of poor elders in one city and a study that examines the impact of displacement on the wellbeing of older Pakistani women in one province.

Results from content analysis of existing data sources on ageing

For each data source, if the survey was carried out multiple times during 2000-2014, we review the most recently available round of the survey for which its questionnaire is accessible. Tables 4 and 5 present a summary of content related to ageing issues that is available in each of the three sources, namely DHS, censuses, and ageing surveys. Table 4 presents individual-level content, whereas Table 5 presents household-level content. In these two tables, D denotes DHS, C stands for census and A refers to ageing surveys. For countries with multiple ageing surveys, we combine alphabetical and numeric labeling (more information is available at the bottom of each table). Table 4, for example, indicates that information about educational attainment of elderly respondents is available in DHS and census for Bangladesh, while for Bhutan, it is available only in census. For Cambodia, we can find out about the educational level of older Cambodians in census and ageing survey (i.e., Cambodia Elderly Survey). Apart from Tables 4 and 5, additional tables that describe in much greater detail the ageing-related content in DHS, censuses, and ageing surveys are available at the following websites: http://ageingasia.org/data-mapping/. These detailed tables should be particularly useful for anyone that plans to conduct their own research on older persons in any of the 25 countries.

Table 4. Summary of sources and content availability for data related to ageing issues for 25 Asia-Pacific countries: Individual level information.

	Basic characteristics			Employment and income				Health									Support for the elderly				Other		
Country	*Demographic characteristics*	*Cultural characteristics*	*Education*	*Economic activity*	*Reasons for not working*	*Source of income*	*Amount of income*	*Self-assessed health*	*Recent illness/injury*	*Sensory impairments*	*Disability*	*Cognitive difficulty*	*Psychological wellbeing*	*Biomarkers*	*Health behaviors*	*Access to health insurance*	*Healthcare utilization*	*Personal care*	*Social support*	*Number of children*	*Location of children*	*Migration history*	*Contribution to HH*	*Social participation*
Bangladesh	D C A	C A	D C	D C	C			A	D A	C A	D C A	C A	A				A	A	A			C	A	A
Bhutan	C	C	C	C	C					C	C	C										C		
Cambodia	D C A	C A	D C A	C A	A	C A		A	A	C A	C A	C	A		A	A	A	A	A	A	A	C A	A	A
China	C A1 A2 A3 A4	C A1 A2 A3 A4	C A1 A2 A3 A4	C A1 A2 A3 A4	C A1 A2	C A2 A3 A4	A2 A3 A4	A1 A2 A3 A4	A1 A2 A3 A4	A1 A2	C A1 A2 A3 A4	A1 A2	A1 A2 A3 A4	A1 A2 A3	A1 A2 A3	A1 A2 A3 A4	A1 A2 A3 A4	A2 A3 A4	A2 A4	C A2 A3 A4	A2 A3 A4	C A1 A2 A3 A4	A1 A2 A4	A1 A2 A3
Cook Islands	C	C	C	C		C				C	C	C								C	C	C	C	
DPR Korea	D C		D C	D C	D			D		D C	D C	D C						D				D C	C	
Fiji	C	C	C	C	C	C	C			C	C	C								C		C	C	
India	D C A	C A	D C A	C A	C A	C		A	A	C A	C A	C A	A	A	A	A	A					C A	A	A
Indonesia	C A2	C A2	C A2	C A2	A2	C A2	C A2	A1 A2	A2	C A1 A2	C A1 A2	C A1 A2	A1 A2	A2	A2	A2	A2	A2	A2	A2	A2	C A2	A2	A2

Table 4 (cont.)

	Basic characteristics			Employment and income				Health										Support for the elderly				Other		
Country	*Demographic characteristics*	*Cultural characteristics*	*Education*	*Economic activity*	*Reasons for not working*	*Source of income*	*Amount of income*	*Self-assessed health*	*Recent illness/injury*	*Sensory impairments*	*Disability*	*Cognitive difficulty*	*Psychological wellbeing*	*Biomarkers*	*Health behaviors*	*Access to health insurance*	*Healthcare utilization*	*Personal care*	*Social support*	*Number of children*	*Location of children*	*Migration history*	*Contribution to HH*	*Social participation*
Iran	C	C	C	C		C				C	C	C										C		
Lao PDR	D C	C	D C	C						C					C							C		
Malaysia	C	C	C	C	C					C		C								C		C		
Maldives	D C A	C A	D C A	C	C	C A				D A	D A	D A						D A				C	C	C
Mongolia	D C	C	D C	C	C					C	C	C										C		
Myanmar	C A	C A	C A	C A	A	C A	C A	A	A	C A	C A	C A	A		A	A	A	A	A	C A	A	C A	A	A
Nepal	D C	C	D C	C	C					C	C	C										C		
Pakistan	D		D																			D		
Palau	C	C	C	C			C													C		C		
Philippines	D C A	C A	D C A	C A	A	A	A	A	A	C A	C A	C A	A	A	A	A	D A	A	A	A	A	C A	A	A
Solomon Islands	D C	C	D C	C	C	C	C			C	C	C										C	C	
Sri Lanka	C	C	C	C		C				C	C	C										C		

Table 4 (cont.)

	Basic characteristics			Employment and income				Health										Support for the elderly				Other		
Country	*Demographic characteristics*	*Cultural characteristics*	*Education*	*Economic activity*	*Reasons for not working*	*Source of income*	*Amount of income*	*Self-assessed health*	*Recent illness/injury*	*Sensory impairments*	*Disability*	*Cognitive difficulty*	*Psychological wellbeing*	*Biomarkers*	*Health behaviors*	*Access to health insurance*	*Healthcare utilization*	*Personal care*	*Social support*	*Number of children*	*Location of children*	*Migration history*	*Contribution to HH*	*Social participation*
Thailand	C A1 A2 A3 A4	C A1 A2 A3 A4	C A1 A2 A3 A4	C A1 A2 A3 A4	A2	C A1 A2 A4	C A1 A2 A3 A4	A1 A2 A3	A1 A2 A3 A4	C A1 A2 A3 A4	C A1 A2 A3 A4	C A2 A4	A1 A2 A3 A4		A1 A2 A3 A4	A1 A2 A4	A1 A2 A3	A1 A2 A3 A4	A1 A2	C A1 A2	C A1 A2	C A2	A1 A2 A3 A4	A1 A2 A3 A4
Tonga	D C	C	C	C	C					D C	D C	D C	D		C		D	D C		C	C	C	C	
Tuvalu	D C	C	C	C					C	C	C	C			C			C		C	C	C		C
Vietnam	D C A2	C A2	D C A2	C A2	C A2	A2	A2	A1 A2	A2	A1 A2	C A1 A2	C A1 A2	A1 A2		A2	A2	A2	A2	A2	A2	A2	C A2	A2	A2

Notes:
[a] C denotes Census; D denotes DHS and: A denotes ageing surveys
[b] In the case that multiple ageing surveys exist for a country, please consult our numbering system as follows.

- China: A1 (SAGE), A2 (CHARLS), A3 (CLHLS), and A4 (Anhui study)
- Indonesia: A1 (SAGE-INDEPTH) and A2 (IFLS)
- Thailand: A1 (SOPT), A2 (HART), A3 (Four region study), and A4 (Elderly risks study)
- Vietnam: A1 (SAGE-INDEPTH) and A2 (VNAS)

Table 5. Summary of sources and content availability for data related to ageing issues for 25 Asia-Pacific countries: Household level information.

Country	Location, composition, characteristics of HH and HH head					Dwelling and facilities									HH economic status						Other		
	Location	HH membership size/composition	House/land ownership	Characteristics of HH head	Cultural characteristics of HH	Characteristics of dwelling	Construction material	Water supply	Electricity	Kitchen/cooking fuel	Heating system	Bathing room	Sanitary facilities	Means of communications	Possessions	Means of transportation	Livestock ownership	Bank accounts/savings	HH economic activity	HH source of income	Health risks	Info about HH members living abroad	Recent deaths
Bangladesh	D C	D C	D C A	D C	C	C	D C	D C	D C	D C			D C A	D C	D C	D C	D					C	
Bhutan	C	C	C	C		C	C	C	C	C			C	C	C	C							C
Cambodia	D C A	D C A	D C A	D C		C	D C A	D C A	D A	D C			D C A	D C A	D C A	D C A	D A	D A		A	D		C A
China	C A1 A2 A3	C A1 A2 A3	C A1 A3 A4	C A1 A2 A3 A4		C A2	C A1 A2	A1 A2 A3	A1 A2	C A1 A2		C A2	C A1 A2	A1 A2	A1 A2	A1	A1 A2	A1	A2	A1 A2			C A1 A3
Cook Islands	C	C	C	C		C	C	C	C	C			C		C	C			C				
DPR Korea	D C	D C	C	C		D C		D C	D	D C	D C		D C	D	D		D						C
Fiji		C	C	C		C	C	C	C	C			C	C	C	C	C						
India	D C A	D C A	D C A	D C A	D C	C	D C A	D C A	D A	D A		C	D C A	D C A	D C A	D C A	D A	D C A		A			A

Table 5 (cont.)

Country	Location, composition, characteristics of HH and HH head					Dwelling and facilities									HH economic status						Other		
	Location	HH membership size/composition	House/land ownership	Characteristics of HH head	Cultural characteristics of HH	Characteristics of dwelling	Construction material	Water supply	Electricity	Kitchen/cooking fuel	Heating system	Bathing room	Sanitary facilities	Means of communications	Possessions	Means of transportation	Livestock ownership	Bank accounts/savings	HH economic activity	HH source of income	Health risks	Info about HH members living abroad	Recent deaths
Indonesia	D C A2	D C A2	D C A2	D C A2		D A2	D C A2	D C A2	D A2	D C A2			D C A2	D C	D A2	D A2	D A2	A2	A2	A2	D A2	A2	C A2
Iran	C	C	C	C		C	C	C	C	C	C	C	C	C					C				
Lao PDR	D C	D C	D C	D C	D	C	D C	D C	D C	D C			D C	D	D	D	D	D	C		D		C
Malaysia	C	C	C	C		C	C	C	C				C	C	C	C			C	C			
Maldives	D C A	D C A	C	D C A		C	D C A	C A	C A	C A		C	C A		D C A	D C A		A		A	A		A
Mongolia	D C	D C	C	D C		C		D C	D C	C	C	C	C				D	D		C			
Myanmar	C A	C A	C A	C		C A	C A	C A	A	C			C A	C A	C A	C A	A	A		A			C
Nepal	D C	D C	D C	D C		D	D C	D C	D	D C			D C	D C	D C	D C	D	D			D		C
Pakistan	D	D	D			D	D	D	D	D			D	D	D	D	D	D			D		
Palau	C	C	C	C		C	C	C	C	C			C	C	C								
Philippines	D C A	D C A	D C A	D C A	C A	D C	C A	D C A	D C A	C			D C A	D C A	D C A	D C A					D	A	

Table 5 (cont.)

Country	Location, composition, characteristics of HH and HH head					Dwelling and facilities									HH economic status						Other		
	Location	HH membership size/composition	House/land ownership	Characteristics of HH head	Cultural characteristics of HH	Characteristics of dwelling	Construction material	Water supply	Electricity	Kitchen/cooking fuel	Heating system	Bathing room	Sanitary facilities	Means of communications	Possessions	Means of transportation	Livestock ownership	Bank accounts/savings	HH economic activity	HH source of income	Health risks	Info about HH members living abroad	Recent deaths
Solomon Islands	D C	D C	C	C		C	D C	D C	D	D C			D C	D C	D C	D C	D C	D		C			C
Sri Lanka	D C	D C	D C	D C		D C	D C	D C	D	D C			D C	D C	D C	D	D	D					
Thailand	C A1 A2	C A1 A2	C A1 A2	C A2	C	C A1 A2	C A1	C A1		C			C A1	C A1	C A1	C A1		A2	A2	C A2			
Tonga	D C	D C	D C	C		C	D C	D C	D	D C		C	D C	D C	D C	D C	D	D		C			C
Tuvalu	D C	D C	D C	C		C	D C	D C	D	D C			D C	D C	D C	D C	D C	D	C				C
Vietnam	D C A2	D C A2	C A2	D C		D C A2	D C A2	D C A2	D A2	D C			D C A2	D C A2	D C A2	D C A2		A2					

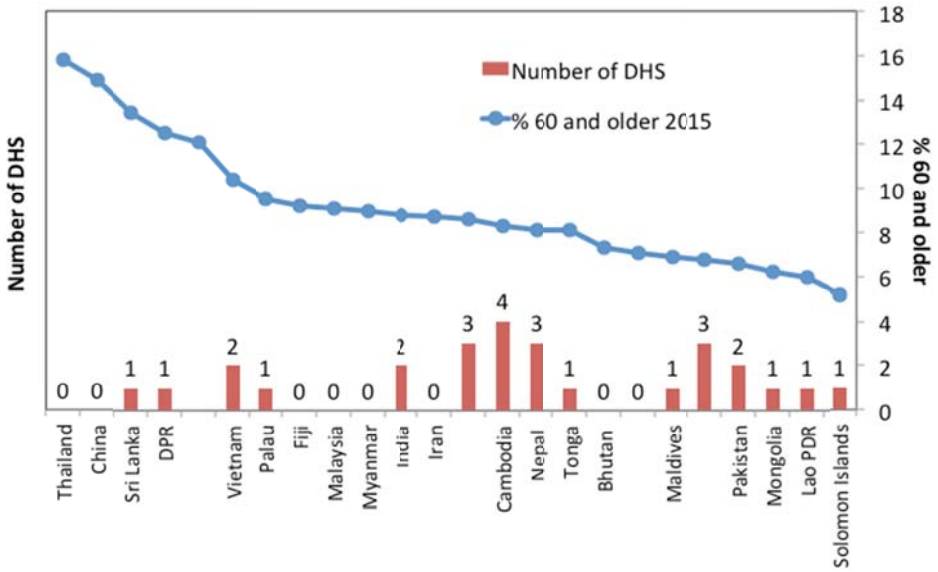
Notes:
[a] C denotes Census; D denotes DHS and: A denotes ageing surveys
[b] In the case that multiple ageing surveys exist for a country, please consult our numbering system as follows.

- China: A1 (SAGE), A2 (CHARLS), A3 (CLHLS), and A4 (Anhui study)
- Indonesia: A1 (SAGE-INDEPTH) and A2 (IFLS)
- Thailand: A1 (SOPT), A2 (HART), A3 (Four regions study), and A4 (Elderly risks study)
- Vietnam: A1 (SAGE-INDEPTH) and A2 (VNAS)

Demographic and Health Surveys (DHS): Useful information on older persons is available in a wide range of surveys that are not focused on older persons but include information on all members of households covered by them. Even surveys that focus on specific segments of the population other than older persons often include a listing of all household members along with information about them. Surveys conducted as part of the DHS project sponsored by the USAID or modeled after them are particularly good examples and thus we focus on them in this report. DHS have been carried out since 2000 in 16 of the countries under consideration (see Table 3).

There are several reasons why DHS serve as a good example. Although DHS focus on reproductive-age persons and their children, data collection involves administering a household questionnaire to a representative sample of all households to identify target respondents. The household questionnaire contains standard questions about basic demographic and related characteristics for each household member including older persons as well as questions about the household as a whole. The household questionnaire often includes country-specific items, which are also relevant to understanding the situation of older members. An additional advantage is that the surveys tend to be taken in countries where fertility is relatively high and hence the proportion of older persons in the population is modest. This is evident in Figure 2 which shows that those countries with medium or low percentages of the population aged 60 and older are considerably more likely to have conducted DHS than ones with more advanced in population ageing. Thus, they provide information on older persons in countries where attention to ageing may be modest but is, nevertheless, needed as argued above. Finally, the data from surveys conducted under the DHS project are available to the public upon application and easily accessible through the DHS website.

Figure 2. Number of Demographic and Health Surveys (DHS) for 2000-2014 by proportions population aged 60 and older in 25 Asia-Pacific countries.



As evident from Table 4, DHS household questionnaires solicit information about household members concerning their basic demographic characteristics such as age, sex, marital status, relation to household head, residence status (usual or temporary), and presence in the previous night and is some cases educational attainment. Measures of living arrangement and household composition can also be derived from the data on relationship of members to the household head (Bongaarts & Zimmer, 2002). Several DHS also contain data on disability status. As shown in Table 5, DHS typically includes a number of items about the household collectively. This usually includes information about the material used in the construction of the dwelling that can be used to assess the quality of housing. In addition DHS typically provides information for the household as a whole about sanitation facilities, water supply, electricity, as well as the nature of the kitchen and type of fuel used for cooking. Information is also included in most DHS regarding household possessions which can provide a basis for assessing household wealth and whether the household has a means of transportation and communication particularly through telephone. Most DHS also ask about livestock ownership. In a number of DHS information is collected on health risks particularly whether people in the household smoke. In brief, the DHS is a good source for data both about various individual characteristics of older persons and about the characteristics of the households in which they reside. Results from this information can be appropriately disaggregated according to age groups of older persons, gender, rural versus urban residence, and educational level, to mention the most obvious.

Censuses: All selected countries (except Pakistan) have at least one census conducted since 2000. Census is thus a useful source of information about older persons in a country, especially when DHS or representative ageing surveys are absent. This is the case for Fiji, Palau, Iran, and Bhutan. Another advantage of census microdata is its large number of observations. For example, the 2009 Vietnam census microdata are based on the long form questionnaire used for about 15% of the total population. As such, the microdata cover 14.2 million individuals and 3.7 million households (Guilmoto & Loenzien, 2013). Not only are the Vietnam census microdata readily available free of charge via the IPUMS website but the large size of the census sample allows researchers to meaningfully examine a less frequent social phenomenon (e.g., patterns of older persons living alone). Data can also be further disaggregated by urban/rural areas as well as by other administrative units (e.g., province and even district).

A trade-off for a large sample size of census microdata is its relative paucity of in-depth information about older persons. According to Tables 4 and 5, questions included in censuses are generally quite standardized across countries; however, country-specific questions exist. Common individual-level information includes relationship to household head, socio-demographic characteristics (e.g., age, sex, marital status, and sometimes ethnicity/religion), educational attainment, disability status, basic employment characteristics (e.g., economic activity, reasons for not working), and crude migration history. Less common individual-level

information includes sources of income, sensory and cognitive impairments, number and location of children, and older persons' contribution to the household. At household level, censuses usually contain the following information: household size and composition, household location, household ownership, dwelling characteristics (e.g., construction material, water supply, electricity, cooking fuel, sanitary facilities), and household possessions which are useful for measuring household economic status. Less typical household-level information includes recent deaths in the household, means of transportation and communications, and household economic activity.

Based on census data, it is possible to identify the characteristics of household composition, household members, and housing characteristics of households that older persons reside in. It is however difficult to identify the relationship between each member and older persons, unless an older person is either the head of the household or spouse of the household head. Additionally, there may be variability in terms of whether the census is a de facto or de jure count. If it is de jure count, it will place some migrants from multi-generational households within the household of the older person even though in practice they live elsewhere. This is particularly an issue with censuses. For DHS surveys it is possible to determine both the de jure and the de facto household compositions.

Ageing surveys: The 18 surveys of older persons reviewed for this study share both commonalities and differences in terms of their sampling frame, sample size, and content. Regarding respondents' age ranges, a fair number are limited to persons aged 60 and older, while others (e.g., SAGE surveys, Surveys of Older Persons in Thailand) covered samples of adults aged 50 and over. There are a few exceptions. The surveys that follow the HRS model which is intended to be a panel study interviewed respondents aged 45 and above. Two of the 18 ageing surveys only interviewed respondents aged 65 and older. This includes the Chinese Longitudinal Healthy Longevity Survey (CLHLS), which has the largest sample of centenarians in the world. In some longitudinal surveys such as CLHLS, attempts were made to interview close family members of deceased respondents who had been interviewed in the earlier waves of the survey, thus yielding important information for understanding old-aged morbidity and mortality.

All the surveys of older persons covered are representative. Some are nationally representative, while many sampled a majority of the country's old-aged population. For example, for the Myanmar Ageing Survey, only Kachin State was omitted due to security reasons. A few, namely the Longitudinal Study of the Elderly in Anhui Province and SAGE-INDEPTH surveys in Indonesia and Vietnam, represent older-aged population in only one province or one district. As noted in the previous section, there are numerous other localized surveys that were not covered in this report because their study samples tend to be drawn from convenience sampling and/or because they focus narrowly on a single topic (e.g., the impact of displacement on older women). We incorporate the Anhui Study in this report

because it represents a gold standard for research on intergenerational relationships. The SAGE-INDEPTH studies in Indonesia and Vietnam were included because they are part of the cross-national data collection efforts on health of older adults. Please note that the SAGE-INDEPTH studies are less comprehensive compared to the full SAGE surveys conducted in China and India.

Typically, in each sampled household, one older person is randomly selected for interview. This includes the Vietnam Ageing Survey, Cambodia Elderly Survey, and Myanmar Ageing Survey. Information about the respondent's spouse is often probed. In some cases (e.g., the Panel Survey and Study on Health, Ageing and Retirement in Thailand), spouses are interviewed directly. For some surveys such as the Survey of Older Persons in Thailand, all persons of eligible age (e.g., aged 50 and older) in the sample households are covered but information is often provided by only one member of the household. Sample size varies quite greatly across the ageing surveys. This ranges from 1,273 elderly in the 2004 Cambodia Elderly Survey to over 60,000 respondents in the 2011 Survey of Older Persons in Thailand. The average sample size of the 18 surveys covered in this study is 11,802 (mean) and 8,998 (median).

There are typically two levels of information available in the surveys of older persons: individual and household levels. A few exceptions (e.g., the Indonesia Family Life Survey and China Health and Retirement Longitudinal Study) also provide community-level information about the location where older persons reside. In this systematic review, we focus on individual and household-level information.

Individual level information: Compared to DHS and censuses, ageing surveys provide far greater information about characteristics and situation of older persons. They tend to cover the following key life domains at older ages: socio-demographic characteristics, migration/change of residence, economic activity, income and expenditure, health status and behavior, access to healthcare, social participation and relationships, intergenerational exchanges, and personal care need. Ageing surveys typically provide basic socio-demographic information such as age, sex, marital status, religion, and educational attainment, whereas some may probe field of study or marital history of older persons. They commonly contain information about older persons' current place of residence and location of growing up. A few surveys under consideration collect detailed migration history (e.g., Cambodia Elderly Survey, Indonesia Family Life Survey).

Regarding employment and retirement, almost all ageing surveys covered in this study have basic information about older persons' current employment status, type of work, and industry, reasons for not working, and age at retirement. It is also fairly common to find lifetime employment and main occupation in ageing surveys. Furthermore, ageing surveys usually collect both objective and subjective measures of income and wealth. Common

objective measures are sources and amount of income and receipt of pension and other social allowances, whereas subjective measures include self-assessed economic status or income adequacy. It is important to note that, unlike income, consumption and expenditure are probed in only a few ageing surveys covered (e.g., HART). Ageing surveys modeled after the HRS, namely CHARLS, IFLS, and HART, offer particularly rich information regarding nature of employment (intensity and employment arrangements), changes in employment, retirement process, pension, and retirement resources. They also contain in-depth information about income, assets, and consumption.

Health status is one of the key components in all 18 ageing surveys under consideration. Most information about health is obtained via self-reports. Typical information related to older-aged health found in ageing surveys includes self-assessed health, activities of daily living (ADL) and instrumental ADL (IADL) difficulties, functional health, sensory impairments, cognitive ability, memory, bodily pain, chronic illnesses, and recent illnesses. Several surveys contain information about elderly mental health. Questions related to psychological health are usually based on CES-D scale, the SF-36 instrument, or the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985; Radloff, 1977; Ware & Sherbourne, 1992). Surveys also usually probe about older persons health behaviors including physical exercise, tobacco use, and alcohol consumption. Given the interest in access to health and medical care, ageing surveys often inquire whether older persons have health insurance, the type of health insurance they have, whether they receive medical care from public or private providers, healthcare costs, and reasons for not seeking healthcare. Less common are anthropometric measures and biomarkers which are collected in the SAGE, CHARLS, Anhui Study, and the Philippines Longitudinal Study of Ageing. The measures include height, weight, waist circumference, lung capacity, performance assessments, and cognitive tests (focusing on verbal dimensions e.g., verbal recall, memory). All of the above-mentioned studies except the Anhui survey collected blood samples from their elderly respondents, while the CLHLS also collected saliva.

Probably the most common measure of overall health in ageing surveys is self-assessed health solicited by asking respondents to rate their own health typically on a five-point scale from excellent to very poor. One potentially serious problem is that different groups within the population, for example men and women or persons with different educational levels may systematically differ in how they apply the response categories. Thus what is typically considered as good health by one group may more commonly be considered as average or excellent health by another group. The use of anchoring vignettes[4] for health states are a

[4] Utilized in sociological and psychological research, a vignette presents a hypothetical situation in which research participants are prompted to reveal their perceptions, values, social norms, or impressions about certain events.

prominent component of the SAGE studies and the HRS related surveys to deal with this problem. In brief all respondents are not only asked to rate their own health but are asked how they would rate the health of persons who are described in several standard vignettes. Differences in how persons rate the vignettes are then used to adjust their rating of their own health.

In addition to health, intergenerational support exchanges are featured quite prominently in almost all ageing surveys under consideration perhaps because family is a linchpin of elderly support in Asia and the Pacific. Common questions include coresidence with adult children, financial, instrumental, and emotional support received from children, and interpersonal relationships (e.g., visits and phone calls from children). Some surveys investigate the reciprocity of intergenerational support by probing about financial and other support provided by older persons to adult children. It is important to note variability across ageing surveys regarding their inquiry about support exchanges between parents and adult children. Many surveys contain child-specific information. In other words, they probe basic characteristics of each child as well as intergenerational exchanges between older person and each specific adult child. These surveys include Cambodia Elderly Survey, CHARLS, CLHLS, Anhui Study, IFLS, Myanmar Ageing Survey, Philippines Longitudinal Study of Ageing, HART, and Vietnam Ageing Survey. A few others such as the Survey of Older Persons in Thailand do not have child-specific information but they usually distinguish co-resident children from non-coresident ones. Going beyond the child generation, information about grandchild care is available in many ageing surveys covered in this project. Nevertheless, only a few of these surveys (namely CHARLS, HART, Anhui Study, and CLHLS) investigate in details about intergenerational exchanges between older persons and grandchildren.

Personal care need and elderly social participations are two other common topics found in the ageing surveys. Typically, surveys inquire about main caretakers and their relationship to older persons as well as ask the elderly to assess whether or not their personal care need is adequate. Some surveys may also probe whether older person is a care provider for household members, including spouse, children and other relatives. Most ageing surveys under consideration usually ask older persons whether they participate recently in community activities (broadly defined), religious ceremonies, or social gathering with neighbors and friends. These questions are aimed to measure the level of older persons' social engagement and social interaction.

Household level information: Ageing surveys tend to have more detailed information about households where older persons reside than censuses and, to some extent, DHS. The surveys under consideration usually contain information about household geographic location, official urban-rural status of the household, household size, and household composition. Almost all ageing surveys provide information regarding types and characteristics of dwelling, including ownership status and construction material of the dwelling. Less common information

includes condition of the dwelling, number of rooms, floor space, value of the dwelling and source of finance. It is also typical for the surveys to have information about availability of household facilities such as electricity, source of drinking water, toilets, and household possessions. Interestingly, a few surveys inquire specifically about the availability of phone and Internet in elderly households.

Based on their household rosters, most ageing surveys provide basic information about socio-demographic characteristics of household head and household members. It is critical to note that a majority of the surveys under consideration ask about the relationship of each household member to the household head. It is thus difficult to figure out how each member is related to the key respondent who is an older person, unless the older person is the household head. Nevertheless, some surveys (e.g., Cambodia Elderly Survey, Myanmar Ageing Survey, Vietnam Ageing Survey, Maldives DHS) probe about the relationship of each household member to the focal older person. This makes it easier for researchers to assess family relationships between older person and other household members. Apart from basic socio-demographic characteristics, other important household-level information that can be typically gained from ageing surveys includes household economic status (e.g., household income sources, total income, expenditure and consumption). While several surveys generally inquire into individual-level economic activity and income/wealth, SAGE surveys probe these questions at the household level.

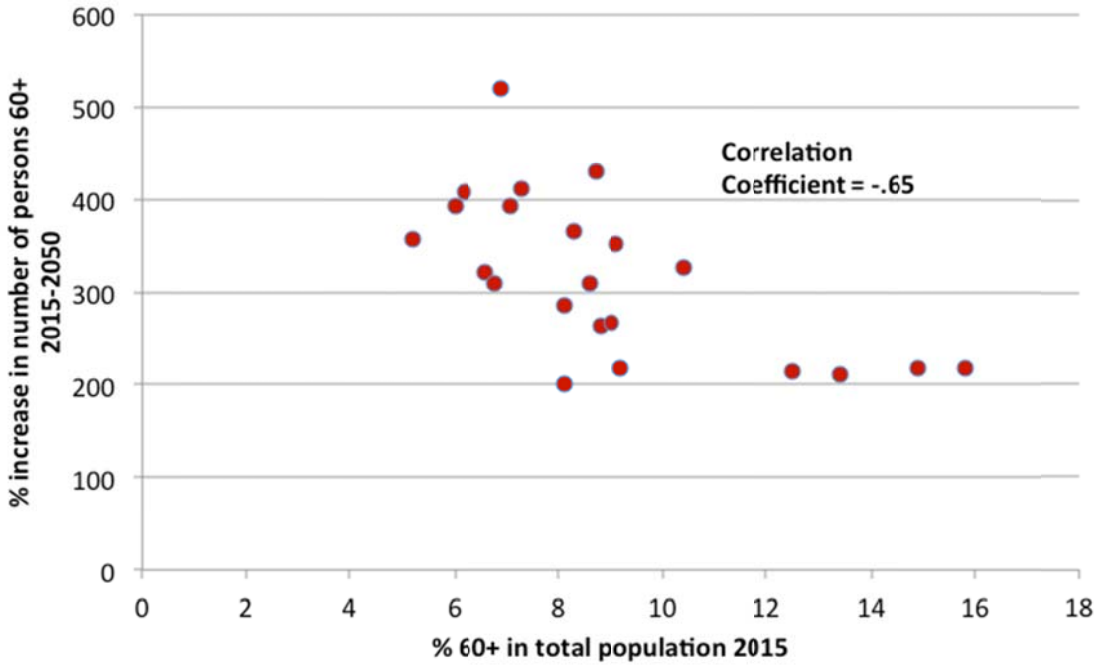
4. HIGHLIGHTS OF COUNTRY DATA GAPS ACROSS THE REGION

In this section, we will first address gaps in data availability with a focus on ageing surveys and longitudinal/panel data, followed by gaps in how various life domains at older ages are conceptualized and measured in DHS, censuses and ageing surveys. We focus on the following domains: health, employment and retirement, income, family support for older persons, social participation and networks, and violence and abuse against the elderly.

Gap in availability of ageing surveys: In recent years, there are increasingly more surveys of older persons conducted in the countries under consideration. By early 2015, nearly half of the 25 countries have at least one ageing survey. As shown in Figure 1 above, there is a clear positive relationship between availability of ageing surveys and levels of population ageing for a country. This suggests that significant data collection efforts and resources have been allocated to where population ageing is considered more advanced. Much less attention has been paid to the countries with a younger age structure. It is nevertheless important to note that increases in the size of the older population can potentially create significant burden/strain on support and health systems for countries where proportions of older persons are relatively low and projected to rise at a modest pace over the next few decades. This is evidenced in Figure 3, which indicates that for the 25 countries under consideration, percentage population aged 60 and above in 2015 has a strong *negative* correlation with percentage increase in number of older adults between 2015 and 2050. In other words, countries where population ageing does not seem to be a big issue will actually experience a much greater proportionate increase between 2015 and 2050 in the number of older persons than those where population ageing is considered advanced although their trajectories over that period may also differ.

For example, proportion of persons aged 60 and over accounts for 7% of the Philippines' total population in 2015. By 2050, it is estimated that the country will witness over 300% increase in the number of older persons, even though proportions of elderly will grow to only about 14% (which is lower than Thailand's current proportions of older adults). While an ageing survey was conducted in the Philippines in 2007 (i.e., the Philippines Longitudinal Study of Ageing), there has not yet been any further data collection plan in the near future due to lack of funding (personal communications with Grace Cruz, 2014). Similarly, other countries that are projected to experience the absolute number of older persons triple or quadruple between 2015 and 2050 include Bangladesh (393%), Bhutan (400%), Cambodia (365%), Iran (430%), Lao PDR (393%), Malaysia (315%), Maldives (520%), Mongolia (408%), Pakistan (322%), Solomon Islands (357%), and Vietnam (327%). None of these countries have ageing surveys, except for Bangladesh that had a survey of older persons conducted in 2014, Cambodia (2004), Vietnam (2011), and Maldives (2009).

Figure 3. Percentages of population aged 60 and older in 2015 by percentage increase in the number of persons aged 60 and older between 2015 and 2050.



Gap in availability of longitudinal data: Although panel study focusing on older-aged populations is becoming increasingly common within the last decade, such data collection approach is typically missing for a majority of 25 countries under consideration (an obvious exception is China). Not only are panel data costlier to collect but they can also be difficult to analyze. One of the key advantages of panel data is that researchers can better determine causal relationships of key related life transitions (e.g., health status and retirement). Furthermore, longitudinal study also allows for investigation of natural experiments. For example, the impact of economic crisis or natural disaster as well as the effect of major changes in social pension provision (and other social protection policies) can be analyzed more efficiently using longitudinal design. The Indonesia Family Life Survey serves as a good example because it allows examination of households and individuals over an extended time period before and after any relevant financial crises or natural disasters. Nevertheless, successive cross-sectional surveys can still be useful and are sufficient for establishing trends of the situation of older persons. An example of successive cross-sectional surveys is the series of Surveys of Older Persons in Thailand conducted every several years between 1994 and 2014.

Data gap in the health domain: Common health topics found in the ageing surveys covered in this study are self-reported health, functional health, and mental health. Meanwhile, important domains such as biomarkers and mortality are usually unavailable in these surveys. For example, mortality information was collected in only a few ageing surveys (mainly

longitudinal datasets). Recording information from death certificates and interviewing next of kin of the deceased can bridge this data gap.

Furthermore, data gap in biomarkers and objective health measures is prevalent in all the data sources we covered. Information about health status was gathered mostly via self-reports. However, self-reporting can be quite problematic for measures such as non-communicable chronic diseases (e.g., hypertension, diabetes, cardiovascular diseases), because many elderly in developing countries tend to have limited access to health screening and checkup and may not be aware of these chronic conditions. In these settings, older persons with high socioeconomic status tend to report higher prevalence of chronic conditions due to greater access to diagnosis. Therefore, self-reported information alone can yield misleading estimates of prevalence or trends of chronic diseases. Some surveys of older persons (e.g., the Vietnam Ageing Survey) have added a questionnaire item to ensure that respondents are diagnosed by medical professionals for certain diseases. This however does not avoid the fact that many who have not gone for diagnosis will be unable to report their situation.

Researchers have recognized advantages of collecting biomarkers in ageing surveys (Smith, 2012). As illustrated above, biomarkers measure disease exposure more reliably than self-reporting. They can also help better understand pathways of health and diseases, which can inform intervention. Researchers also use and analyze biomarkers to provide validity to self-reporting measures of health status and the validity of cross-national studies. Furthermore, biomarkers may be particularly critical in the developing settings where there is a co-existence of infectious diseases and chronic diseases, which can be detected relatively easily in blood tests (Lee, 2007). Despite several advantages of biomarkers, the feasibility and added costs of including them could be an issue. Factors that may affect the quality and reliability of biomarkers include lab variations and the fact that what respondents eat before the test, and the time of the day the blood or urine samples are drawn, influence lab results. Thus, it is important to have skilled researchers and medically trained interviewers for this undertaking.

Among ageing surveys covered in this study, only a few of them supplement diagnosis questions with biomarkers. These few ageing surveys include SAGE surveys, CHARLS, CLHLS, and the Philippines Longitudinal Study of Ageing. This means that information about biomarkers for older persons is available in just 3 out of 25 countries under consideration (namely, China, India, and the Philippines). For Thailand where several ageing surveys exist, none of them –including HRS related survey HART—collected biomarkers. Note that in Thailand there are studies that collect biomarkers routinely (e.g., Thailand's National Health Examination Survey). However, these datasets are not easily accessible to the general public.

While several ageing surveys covered in this project probe elderly respondents about their cognition and memory, only a few actually conducted cognitive testing to measure cognitive impairment. Some modified versions of the mini-mental state examination were implemented in various ageing surveys in China, Indonesia (IFLS), the Philippines, and Thailand (HART), but the cognitive testing is heavily focused on verbal dimensions (e.g., verbal recall, memory). Experts suggest that verbal testing should be supplemented with non-verbal tasks including drawing or mimicking animal behaviors (Lee, 2007). In addition to cognitive ability, functional health is another key health domain in older ages. Loss of functional health over the life course is an important issue that predicts disability and is directly related to healthcare costs and quality of life. While a majority of ageing surveys rely solely on self-reporting (e.g., whether or not respondents are able to walk up and down a flight of stairs or to use fingers to grasp things), performance testing (including grip strength assessments) was introduced in the SAGE surveys, CLHLS, and the Indonesia Family Life Survey. This presents a good opportunity to measure functional health. Nevertheless, measurement errors can still exist. For instance, grip strength varies with hand size.

Data gap in the employment and retirement domain: Researchers have long recognized that measuring labor force participation and retirement among older persons is not a simple task. Almost all surveys examined in this study attempt to capture economic activities of their respondents. Nevertheless, why older people work or do not work and why people stop working have not been fully examined in these surveys. The HRS related surveys in China, Indonesia, and Thailand are exceptional in their detailed efforts to measure the complexity and nuances of employment and retirement in older ages. In these ageing surveys, a series of questions are incorporated to assess the complex picture of employment intensity (e.g., working hours, part-time/full-time appointment, self-employment), retirement processes, employment histories, and changes in retirement expectations. While questionnaire items in these HRS related surveys were adapted primarily from those utilized in the developed settings such as South Korea, researchers are aware that the retirement process in developing countries may be very different from developed economies in the sense that it usually involves gradually phasing out work and gradually phasing in intergenerational transfers (with no relevance to pension). Changes in living arrangements are also often an outcome of retirement in developing contexts. Given that the rapid pace of economic development in developing countries, ageing surveys should also be able to capture economic transition that tends to occur in a person's lifetime. Experts further argue a need to go beyond survey data to incorporate other sources of information such as social security systems, which vary greatly across countries, and other country-specific information that is required to understand labor and retirement behaviors (Lee, 2007).

Data gap in the income domain: It is common in ageing surveys that older persons' income is measured in a few questions (e.g., asking what is the elderly's main source of income and what is the respondent's amount of annual income last year). An exception is the HRS related surveys that have a lengthy section in their questionnaires dedicated for measuring income, wealth, and consumption. The unit of measurements is typically at individual, couple, or household levels. Measurement errors tend to be significant for income, wealth, and consumption. For example, some concepts are hard to understand (e.g., net worth), while some values may be unknown to respondents (e.g., the market value of real estate). Furthermore, in developing settings, given significant seasonal differences in income, it is recommended that detailed questions on revenues and costs for a calendar year are asked in multiple interviews throughout the year. Caution is also needed for the developing settings when surveys try to probe family work due to seasonal labor variations. Economists argue that consumption information is easier to collect than income in rural developing contexts because villagers tend to consume what they produce (Lee, 2007). It is critical for an accurate assessment of income to include all necessary sources of income, consumer goods consumption as well as the consumption of what the household has produced and to distinguish expenditures from consumption. Living standards surveys by the World Bank provide a good guideline for collecting data on income, wealth, and consumption. One general problem when asking about income is that respondents may interpret the question as referring to monetary income. Thus responses may not take into account non-monetary forms in kind from family members which in many of the countries are a primary source of their material support.

Despite the imperfection of data on income in many ageing surveys, a number of studies in developing settings have demonstrated that older persons' economic status, particularly their economic position within a population, can also be measured by ownership of household possessions and housing quality (Teerawichitchainan & Knodel, forthcoming; Zimmer, 2008)[5]. According to Zimmer (2008), the measure is appropriate for several reasons. First, it is a more permanent indicator than income or consumption, especially for retirees who do not earn income (Rutstein & Johnson, 2004). Second, in developing settings, the elderly tend to rely on family for material support. Thus, the economic status of the household is a more

[5]A forthcoming study by Teerawichitchainan and Knodel based on the Myanmar Ageing Survey constructs a household wealth index for elderly respondents based on household ownership of the following 17 items: radio, television, video/DVD player, personal music player, telephone, computer, store-bought furniture, electric fan, air conditioner, refrigerator, washing machine, gas cooker, electric/rice cooker, microwave oven, bicycle, motorcycle, and car/truck as well as based on whether the house has four favorable structural components: piped water, sit/squat toilet, modern floors (made of brick, stone, cement, or tile), and modern wall (made of brick, wood, or cement). It is important to note that this asset-based index of household possessions is sensitive to household size.

appropriate indicator of material wellbeing than individual income. Third, questions about household assets and housing quality tend to be readily available in various types of data sources (including DHS and censuses) and are less prone to measurement errors.

Data gap in the domain of family support for the elderly: Family and intergenerational transfers are important topics in Asian countries. Due to various demographic shifts that involve rapid population ageing, low fertility, increased migration, and diminished availability of children and kin, family support for the elderly is an increasingly significant policy issue in this region. While it is possible to examine elderly living arrangements (e.g., whether an older person coresides with adult children) based on census and DHS datasets, information about other aspects of familial support for the elderly can only be gained from analyses of ageing surveys. Most surveys contain at least a few questions about whether older persons receive monetary support from children. Some probe further into other aspects of support for elderly such as instrumental support (e.g., housework), in-kind support (e.g., help with family business), emotional support, and social support (via visits or phone calls). Several surveys also inquire whether older persons need assistance in personal care (i.e., activities of daily living) and whether children provide personal care support. It is important to note that familial support for the elderly tends to change as the ageing process progresses. This will depend on which aspect of intergenerational support is needed. Some support such as personal care likely requires children's physical proximity to elderly parents, whereas social support less so, given the increased accessibility of communications technology such as phone or Internet and material support in the form of remittances can be easily transferred over distances.

Not only do ageing surveys ask about support to older parents from children and in some surveys (e.g., in HART, CHARLS) from grandchildren, but a few of them also provide information about monetary and instrumental support that the elderly provide for children and grandchildren. This points to one of the data gaps in this domain –that is, measures related to the nature of reciprocity of intergenerational transfers as well as older persons' contribution to the household, particularly intergenerational transfers from the elderly to the younger generations including sharing their housing with coresident children and grandchildren as well as productive assets including farm land with children including those that are not coresident. Furthermore, ageing surveys vary greatly in terms of whether information about support from/to each child is asked. About half of the ageing surveys covered here asked globally about children's support to older parents, while the rest (e.g., Cambodia Elderly Survey, CHARLS, CLHLS, Anhui Study, IFLS, Myanmar Ageing Survey, Philippines Longitudinal Study of Ageing, HART, and Vietnam Ageing Survey) contains child-specific information which makes a more nuanced analysis possible.

Data gap in the elder abuse domain: The topic of elder abuse is understudied and it is difficult to get valid representative evidence. Existing research has focused primarily on developed countries and examined the following aspects of abuse: physical abuse, psychological/emotional abuse, financial/material abuse, sexual abuse, and neglect (i.e., refusal or failure to fulfill a caregiving obligation). According to a meta-analysis of 1,832 research articles published between 1990-2011 on elder abuse, a vast majority of studies are found to lack rigorous study methodology, compromising on reliability and validity, and not detailing sampling methods (Sooryanarayana, Choo, & Hairi, 2013). Among methodologically valid research, this meta-analysis demonstrates that the prevalence of elder abuse (especially psychological abuse) appears to be higher in Asian regions than Europe and America, indicating that elder abuse may be a serious issue for the region and more potential for research, particularly in terms of cultural ideologies that may influence abuse perceptions and outcomes.

Most of the ageing surveys covered here do not have any questions related to elder abuse. Among a few that do (namely, the Survey of Population Ageing in Bangladesh, Vietnam Ageing Survey, and Myanmar Ageing Survey), they incorporate self-report questions about physical and mental abuse experienced by elders. Preliminary analysis of the Myanmar and Vietnam ageing surveys suggests that the elderly may feel reluctant or ashamed to report abuses by family members particularly in the context of filial expectations. Thus, it may be difficult to examine the population-based prevalence of abuse using a quantitative research approach. Perhaps it is more appropriate to use a qualitative research tool to examine this sensitive topic although caution will be required with respect to generalizing from the findings.

5. DATA COMPARABILITY AND ACCESSIBILITY ACROSS COUNTRIES

In this section, we examine the comparability and accessibility of different datasets in the 25 low- and middle-income countries in Asia and the Pacific. We focus on the differences between independently undertaken data collection projects and coordinated surveys such as HRS related surveys and SAGE studies that explicitly attempt to maximize comparability across surveys of different countries.

Emerging data collection projects, particularly recent ageing surveys, allow for better understanding of patterns of behaviors on healthcare, retirement, and the roles of family in elderly support within a country. While this knowledge can usually inform country-specific policy and science, it has been widely recognized that comparing such knowledge across contexts are particularly useful for formulating policy solutions to prepare for global population ageing as well as for understanding the effects of various policies. Comparative studies also provide an opportunity to learn from the successes and failures of other countries in their attempts to deal with population ageing. Nevertheless, cross-national comparative research requires comparable datasets. This means that information available in each survey should be conceptually comparable and that survey procedures (e.g., sampling and quality control) are synchronized to the extent possible. In general, comparative survey research poses numerous challenges for analysis, including the complexity and subjectivity of language, and the difficulty in achieving complete equivalence of concepts that come in different linguistic and cultural contexts. These challenges are particularly acute in comparative ageing research because current generations of older persons tend to speak only their native language and have much less exposure to multiculturalism compared to younger generations (Angel, 2013).

Throughout the last two decades, there have been concerted efforts in several countries to harmonize data collection on ageing issues. One of the most notable examples is a collaboration between the HRS, SHARE (Survey of Health, Ageing and Retirement in Europe), and ELSA (English Longitudinal Study of Ageing), which represents Western developed countries (including Israel). Almost all of these datasets and related documentations are made publicly available via the Gateway to Global Ageing Data website hosted by the University of Southern California (http://gateway.usc.edu/). Numerous interdisciplinary, cross-national research projects, including policy evaluation, have been conducted based on these datasets. For the geographic region covered in this study, such HRS model collaboration has been much more recent (within the last 10 years). There are four HRS related surveys conducted in developing Asia settings, including China (CHARLS), India (LASI), Indonesia (IFLS), and Thailand (HART). Given the focus on health and retirement, these surveys are expected to provide readily comparable data to inform the status and situation of older persons by key life domains at older ages including work, income

security, health status, health utilization, and intergenerational support for the elderly (Smith, 2012). Another notable data collection coordination in this region is the WHO's SAGE surveys in China and India and the companion INDEPTH-SAGE studies in Indonesia and Vietnam. Compared to the HRS related surveys, the SAGE studies focus more exclusively on health status and healthcare of older persons and are not as multidisciplinary. One of the presumed advantages of these coordinated data collection projects is that they will provide a platform to monitor on a comparable basis the changes that will take place in the future regarding the situation of older persons in these Asian settings (Smith, 2012). Nevertheless, this benefit is rather limited at the moment due to the fact that these SAGE and HRS related surveys were taken in the recent past.

While ageing surveys that were conducted independently are not as straightforwardly comparable as those coming out of the coordinated data collection projects, it is still feasible to carry out cross-national comparative studies based on these datasets. In such cases, researchers are required to harmonize variables and to make compromises. For example, the authors of this report analyzed the Myanmar Ageing Survey, Vietnam Ageing Survey, and the Survey of Older Persons in Thailand to understand the situation and livelihoods of older persons living alone in the three countries (Teerawichitchainan, Knodel, & Pothisiri, 2015). Typical in comparative research, harmonizing key variables to maximize comparability across the surveys posed a serious challenge for our analysis (e.g., measuring elderly psychological wellbeing). While numerous efforts have been made in the study to address the issues of comparability, we recognize that they cannot entirely be discounted.

Measuring and comparing health status of older persons across different countries benefit a great deal from having coordinated surveys such as HRS related surveys or SAGE studies. As mentioned earlier, developing Asian countries are characterized by widespread undiagnosed diseases. Thus, measuring health status, particularly chronic conditions, cannot rely solely on self-reports of respondents. Furthermore, answers to questions about self-assessed health may vary greatly across different linguistic and cultural contexts. For example, an analysis of the Vietnam Ageing Survey and Myanmar Ageing Survey suggests that Vietnamese elders are more likely than those in Myanmar to report negative self-rated health, despite that fact that the life expectancy at birth in Vietnam is 11 years longer than that of Myanmar and life expectancy at age 60 is 5 years longer (HelpAge, 2015; United Nations, 2013). Biomarkers (e.g., blood pressure) and performance tests that are available in coordinated surveys in some of the other countries allow for a more accurate assessment of health and wellbeing in old age and make a cross-national comparison more straightforward and less likely to subject to the complexity and subjectivity of language.

Apart from more objective measures of health, other health measures incorporated in the measurement protocols of the HRS related surveys and SAGE studies include vignettes for health status. Given that health is a multi-dimensional experience, health vignettes are expected to improve comparability across individuals, communities, and populations. Biases are typically found as expectations about health differ (e.g., elders from a very poor household may have lower expectation about their health status than their well-off counterparts; they may thus report a better self-reported health or less functional health limitations, even though they may actually not be healthier). To capture such subjective effects that often occur in self-reporting, anchoring vignettes have been incorporated in SAGE, HRS related surveys and a few other ageing surveys such as CLHLS and the Philippines Longitudinal Study of Ageing. Vignettes nevertheless do not solve all problems. For example, vignettes are cognitively challenging as respondents are asked to think about a hypothetical person's condition. Researchers also find that in an Internet environment, vignettes are powerful, but in paper-and-pencil surveys, it is hard to communicate vignettes with respondents (Lee, 2007).

Accessibility of data

In addition to increasing comparability of datasets on ageing in this region, there is a great variability regarding accessibility of ageing surveys across countries and within countries. In the past, it was typical in Asia that data were tightly guarded and not distributed to scientists outside a particular group (e.g., researchers who work for a research institute or work closely with national statistical offices). Critics argue that such practice has negative consequences for the advancement of science and policy in these countries (Smith, 2012). However, there is a trend towards greater accessibility of datasets on population ageing. The HRS related surveys and SAGE studies set such a trend. With funding from agencies such as the National Institutes of Health, many datasets are required to be released to the public. Researchers are working towards a more timely release of the datasets given the room for improvement (e.g., the LASI survey conducted in 2011 is not yet available in the public domain as of 2015). Ageing surveys that are independently conducted are usually unavailable to the public.

Although censuses and DHS provide far less information concerning older persons than ageing surveys, the limited information that they do have tends to be more comparable and more accessible. As noted above, surveys affiliated with the DHS project funded by USAID are available upon application. For censuses, a fair share of public use samples are eventually made available through *Integrated Public Use Microdata Series* (IPUMS). However there can be a significant delay between the date of the census and when it becomes available through IPUMS. Thus as noted above while 11 of the 25 countries covered have made data sets for censuses conducted since 2000 available through IPUMS, only 4 include the most recent census.

6. GOOD PRACTICES IN TYPES OF DATA COLLECTED ACROSS THE REGION

When considering good practices in relation to collection and use of data dealing with ageing in the region, in several important respects they depend on the purpose that the data are intended to serve and what parties will be utilizing the data. For example, good practices may be considerably more stringent if the data are to be used by academics for detailed analysis on ageing compared to programmatic officers in UNFPA country offices or in government ministries that may require data for limited descriptive analyses. Likewise if an important purpose is to conduct comparative analysis, coordination with research conducted in other countries will be essential but it would not be critical if only country-specific analyses are needed. In addition, budget constraints may restrict the ability to follow some practices that would be desirable but are too costly to incorporate in the specific effort under consideration. Although the following list of good practices avoids caveats that condition them with respect to the purpose and use of the data, it is nevertheless important to bear their relevance in mind for virtually all of them.

Promote contact from the beginning of the research process between those that conduct research on ageing and those that utilize the results

Involving representatives of the full range of parties that will be using the data is important during the design, analysis and dissemination phases. At a minimum this should include those that will utilize the results for programmatic and policy matters, those responsible for data collection, and academics concerned with basic research on ageing. Involving these different parties at the design stage will help ensure that the interests of a wide range of potential users are taken into account in terms of topics covered. It is also important for different types of users to be aware of the interests of one another. This can assist, for example, analyses by more academic users in providing translational results for those concerned with policy and programs. It should also mitigate the difficulties that academics who are engaged in serious research on ageing often experience in getting the attention of those that make policy and formulate programs. Such interchange is essential for promoting evidence-based policies and programs and should help ensure that the evidence provided is analyzed by experienced and skilled researchers. A good example of bringing together persons concerned with issues concerning population ageing including academic researchers and policy and practice persons is provided by the HelpAge regional conference in September 2014 in Chiang Mai Thailand on the theme Older People in Ageing Societies: Burden or Resource?

Ensure that the design and implementation produces objective data and analysis

Evidence-based policy requires research that yields not only findings that confirm the assumptions of policy and program personnel but also ones that can call them into question. It is important to avoid framing questions in ways that will result in responses that are limited to or biased towards preconceived assumptions or results that justify current or planned programs. For example, survey questions need to be neutrally worded and pre-coded response categories need to allow for responses that bear unfavorably as well as favorably on hoped-for results. Moreover analyses of the data need to be designed such that they allow investigation of results that raise questions about current policies or contradict assumptions underlying them.

Hold dissemination events

Dissemination events presenting results to a wide range of potential users should accompany the launching of the publication of the main research report. Such an event could even precede publication of the report as long as sufficient analysis has been undertaken to increase the timeliness of making results known. However, having a completed report available will likely increase chances for a more lasting impact. Moreover, prior to such a broad dissemination event, less formal targeted briefing sessions could be particularly effective in enhancing the data's impact. Appropriate candidates for such briefings include personnel from departments in ministries that deal with ageing issues and the sponsors of the research who will likely be an important link to practitioners.

Make data available to potential users

Although our systematic review of data related to ageing in the 25 countries reveals substantial existence of relevant data, the value of this resource is quite dependent on the availability of the data sets for researchers to access. While typically a basic survey report is issued and there may also be other more focused publications, the potential uses of the data are typically far more extensive than can be either anticipated or covered in such publications. Thus providing easy accessibility in response to an application stating legitimate reasons for the request for the data will maximize use. The DHS data sets are most exemplary in this respect given that most surveys were conducted under the DHS program which routinely makes data sets available for public use. The situation is more mixed with respect to availability of data from censuses. A number of countries provide public use microdata typically in the form of representative samples of several percent of the total population. Moreover, as noted above, many of these are available through IPUMS centered at the University of Minnesota. The least public access is available for the ageing surveys which are often considered proprietary by the institutions that conduct them. Fortunately, the WHO SAGE and surveys affiliated with the HRS project are committed to make their data

available. However, we do not have information about policies concerning access to other surveys of older persons.

Harmonization of questionnaires to facilitate cross-country comparative analysis

One serious challenge for comparative analyses across countries is the fact that questionnaires used to gather data can differ very substantially. Even when the same issue is being addressed, questions used to address it and the associated response categories can differ substantially and thus require efforts to harmonize variables across the different surveys. This can also be a problem with data from different surveys within the same country. With respect to the data sources that we have examined, the DHS project provides the clearest example of harmonizing questionnaires although in virtually all countries the surveys also include questions specific to issues of local relevance. This is a reflection of the fact that the DHS is mainly coordinated by a single organization (ICF International) and sponsored by a common funding source (USAID). Moreover, countries that are not part of this project often have adapted their reproductive health survey questionnaires following the DHS model. There is also a reasonable amount of similarity in the contents of census questionnaires across countries facilitated by the fact that technical assistance as well as funding has been provided by the United Nations, especially the UNFPA. Surveys of older persons show the most variation although even here similarity in questionnaires has been facilitated by the recent series of health and retirement studies (HRS) and by the World Health Organization's study on Global Ageing and Adult Health (SAGE). In addition, several university institutes, e.g. Nihon University Population Research Institute in Japan, have carried out comparative studies in more than one country in the region. However, these harmonized efforts have only occurred in a few of the countries covered in this report. One important example of the lack of harmonization across the region with respect to ageing surveys is whether or not questions concerning relations between older persons and their children are asked in relation to each individual child or only about children collectively. This greatly affects the extent to which family support and relations can be examined.

Ensure that data collection efforts include modules that address specific issues of critical national interest

While harmonization is necessary for comparative analyses, many countries have specific issues that are relevant to them but are not of importance elsewhere. Given that much of the national use of data on ageing will be directed towards such issues, it is essential that they be adequately addressed in questionnaires dealing with older persons in that country.

Repeat ageing surveys and other sources of data collection periodically and adjust content to changing contexts

It is essential for many purposes to have information about trends regarding older persons as well as the changing contexts in which they live out their lives. For this reason, conducting successive surveys is important to provide information on older persons including their changing characteristics and their interaction with evolving technology and the changing social and economic contexts within which they live. Thailand provides a reasonable example of this approach with the National Statistical Office having carried out a series of five such surveys between 1994 and 2014 and with a plan to continue the series every few years in the future. However, it also provides an example of how changing the questionnaire in response to various stakeholders can compromise the comparability over time of the information thus undermining the ability to calculate trends. Although there is a great deal to say in favor of longitudinal studies for establishing causal relations, their advantages must be weighed against the considerably greater difficulty involved in carrying them out. Moreover, successive cross-sectional surveys are sufficient to determine trends with regards to the situation of older people.

Utilize relevant data available from surveys that do not focus on older persons

As illustrated by our coverage of census and DHS as potential sources for data on older persons, ageing surveys are not necessary for documenting basic characteristics and even trends relevant to the situation of older persons. As noted elsewhere in the report, other surveys including labor force surveys and socioeconomic surveys can also provide considerable information of value about older persons.

7. MAJOR FINDINGS AND RECOMMENDATIONS

Major findings:

- There is a fair amount of survey datasets related to ageing in the 25 Asia-Pacific countries under consideration. This includes some datasets (e.g., DHS and censuses) that are not directly focused on ageing or that do not have older persons as their focal respondents.
- The two countries –Thailand and China—that are most advanced in population ageing in developing Asia have multiple ageing surveys that are comprehensive and usually nationally representative. For China, there are several panel studies of older persons, while Thailand has a series of repeated nationally representative cross-sectional ageing surveys.
- While censuses conducted since 2000 exist in all the countries covered in this report except Pakistan, DHS exist in only 16 of the 25 countries many of which have a relatively young age structure. Censuses and DHS are sufficient to inform researchers and policy makers about characteristics of older persons and where data series exist, temporal changes in the characteristics. A few exceptions notwithstanding (e.g., the 2009 Maldives DHS), DHS surveys do not usually have specific information related to health at older ages, old-age income security, or family support for older persons. Although most censuses include questions on disabilities they also typically lack information on the rest of these issues. These topics are commonly found in comprehensive surveys of older persons. Given that several governments in this region are keen to promote family support for older persons, continuous monitoring of situational change and policy formulation related to these issues can benefit from ageing surveys.

Recommendations

- *Comprehensive surveys of older persons can be useful for evidenced-based policy formulation even in countries where population ageing does not seem to be of major economic and social concern*. Among countries that are not as advanced in population ageing as Thailand and China, representative surveys of older persons are not common or non-existent in some cases. Many of these countries will experience substantial growth in the number of older persons in the near future even though percentages of older persons in the total population increase only modestly. Moreover, even in countries where population ageing is less advanced, migration patterns often results in substantial proportions of older persons particular local or sub-national levels. Thus there is need of a comprehensive ageing survey in these countries as well.
- *The characteristics and situation of older persons should be routinely included as one topic in the series of thematic reports that typically are issued following a census*. Censuses have been conducted since 2000 in all the countries covered but Pakistan and permit detailed disaggregation of older persons by a substantial range of important

characteristics. Despite this the older population is rarely the subject of a separate thematic census report. Reports that focus on age and sex structure as well as those on issues disproportionately associated with ageing such as disability are also important but should not be considered as a substitute for one that specifically focuses on older persons. It is encouraging that the thematic reports planned for the 2014 Myanmar census and funded by the UNFPA will include a separate report on the elderly. This example should be widely promoted throughout the region in the future.

- *Public use samples of census data should be made widely available to permit customized analyses of the older population*. This recommendation is related to the one above and based on similar reasoning. Availability of public use samples, especially those provided to IPUMS would allow researchers to tabulate and analyze data about older persons in ways that are appropriate for specific purposes that arise subsequent to or were omitted from any thematic census report on older persons. The need for such analyses is certain to arise as programs or policies concerning older persons are being formulated and modified.
- *DHS should add a short module concerning the health of older persons*. Surveys conducted by the DHS project typically focus on reproductive-age adults and young children. However as population ageing becomes increasingly a prominent key demographic issue, important information about the health of older persons should be the focus of a separate module. The Maldives DHS serves as an excellent example and should be followed in other countries. This would provide a major addition to information on older persons especially in countries that lack specific surveys of older persons given the association of the DHS with countries not yet undergoing population ageing but with substantially growing older populations.
- *It is possible to expand existing longitudinal surveys not specifically designed to study ageing to cover issues pertaining to older persons.* Outside China, there is very limited availability of longitudinal surveys dealing with older persons in the countries under consideration. One creative idea is to expand existing longitudinal surveys that have been following cohorts of men and women since they were younger but who are now entering older ages. A good example of this undertaking is the Indonesia Family Life Survey which was conducted in 1993, 1997 and 2000 prior to expanding its fourth wave carried out in 2007 to include ageing modules comparable the HRS. Another example is the Cebu Longitudinal Health and Nutrition Survey (http://www.cpc.unc.edu/projects/cebu/about), which is an ongoing study of a cohort of Filipino women who gave birth during 1983-1984 and are now entering older ages. This dataset will have the advantage of having longitudinal information about currently older persons when they were much younger. Nevertheless, it is important to ensure that there is adequate technical and institutional support domestically and internationally for an undertaking of longitudinal/panel data collection and analysis.

- *Funding agencies and donors should encourage careful documentation of ageing survey methodology (including sufficient information about sampling frame and procedure).* This can be incorporated as a chapter in a report of key findings such as has been practiced routinely in the reports of DHS surveys in various countries.
- *Gender analysis should incorporate issues specific to men as well as those specific to women*. Gender analysis, as with other forms of disaggregation (e.g., age, urban/rural), is an important means of appreciating inequality but should examine issues that are specific to men as well as those specific to women. Many UN and other international organizations in recent decades have focused on the needs of women (Chamie, 2014). This has also been the case with regards to the older population (Knodel & Ofstedal, 2003). Yet, men also have specific gender-specific needs. While women outnumber men among older populations in virtually all countries, men still constitute a substantial share and should not be ignored. Including issues particular to men as well as those particular to women would provide a more comprehensive and inclusive understanding of issues related to population ageing.
- *International organizations and NGOs such as the UNFPA, World Bank, and HelpAge International can play a significant role in fostering communications among researchers in the Asia-Pacific region*. This will encourage researchers to share their ideas and experiences learned from conducting studies on population ageing issues. Such regional collaboration can lead to cross-national comparative research to better inform policy formulation and assessments of policy impacts related to older persons.

ANNEX 1: DESCRIPTION OF SURVEYS OF OLDER PERSONS BY COUNTRY

We describe the details about surveys of older persons in each country as follows. Please note that, as of 2015, there are no surveys specifically designed to cover older-aged population in Bhutan, Iran, Lao PDR, Nepal, Pakistan, Sri Lanka, and in all Pacific Islands (Cook Islands, Fiji, Tuvalu, Solomon Islands, and Tonga).

Bangladesh

- **Survey on Population Ageing in Bangladesh 2014** is a nationally representative survey of older persons in Bangladesh conducted by the Department of Population Sciences, the University of Dhaka. It was the first population-based comprehensive ageing survey conducted in the country since 1988. Cluster sampling design was used for this study. Its sample consisted of 6,272 persons aged 60 and over in seven administrative divisions of Bangladesh including Barisal, Chittagong, Dhaka, Khulna, Rajshahi, Rangpur, and Sylhet. Fieldwork began in October 2014 and the first report draft is anticipated in early 2015. In addition to the quantitative component, the survey also collected qualitative data via 14 focus group interviews, case studies, consultative meeting, and key informant interviews with major stakeholders.

Cambodia

- **Cambodia Elderly Survey 2004** is a representative survey of elderly persons conducted by the Royal University of Phnom Penh in cooperation with the University of Michigan which also funded the survey together with supplemental funding from the UNFPA Cambodia office. Its sample consisted of 1,273 persons aged 60 and older living in an area covering over half of Cambodia's population which included Phnom Penh and the five most populous provinces (Kampong Cham, Kandal, Prey Veng, Battambang, and Takeo). In sampled households, only one elderly member was interviewed, regardless of the number of members aged 60 and over. The response rate was high, although it was lower in Phnom Penh (85%) than the other provinces (98%). More information can be found in Knodel et al. (2005).

China

- **WHO's Study on Global Ageing and Adult Health (SAGE)** is a longitudinal study with nationally representative cohorts of persons aged 50 and older in China, Ghana, India, Mexico, the Russian Federation, and South Africa, with comparison samples of younger adults aged 18-49 in each country. SAGE Wave 1 was implemented as a face-to-face household interview in China (2008-10). The total sample size was 14,811. The sample was drawn using a stratified, multistage cluster design so as to allow each household and individual respondent to be assigned a known non-zero probability of selection. In China, the survey was carried out in Guangdong, Hubei, Jilin, Shaanxi, Shandong, Shanghai, Yunnan, and Zhejiang, covering four regions. The survey was carried out by Shanghai Municipal Center for Disease Control and Prevention and the World Health Organization. The SAGE survey instruments cover a broad range of topics, including health and its determinants, disability, subjective and emotional wellbeing, financial wellbeing, healthcare utilization, and health systems responsiveness. SAGE has included methodologies to improve cross-population comparability of self-reported health and wellbeing data through biomarkers, performance tests, anchoring vignettes, and additional validation studies. The anchoring vignettes approach included a short story that describes a concrete level of health in a given health domain, such as mobility. Respondents were asked to rate vignettes using the same questions and response categories that they use to describe their own health state along the same domain. Implementation of SAGE Wave 2 was carried out in mid-2014 and Wave 3 is planned for 2016. More information is available at http://www.who.int/healthinfo/sage/en/.
- **China Health and Retirement Longitudinal Study (CHARLS)** is a nationally representative longitudinal survey modeled after the Health and Retirement Study (HRS) in the United States. It was conducted by the China Center for Economic Research at Peking University with funding from the National Natural Science Foundation of China, the Behavioral and Social Research Division of the National Institute on Ageing and the World Bank. The survey collected detailed data on both socioeconomic status and physical and mental health of community residents. The CHARLS pilot survey was conducted in 2008 in two provinces: Zhejiang and Gansu. Its sample consisted of individuals aged 45 and over and their spouses. It included interviews of 2,685 individuals in 1,562 households. The response rate was 85%. Subsequently, the national baseline of CHARLS was conducted in 2011 and included approximately 10,000 households and 17,500 individuals in 150 counties/districts and 450 villages/resident committees nationwide. The CHARLS questionnaire includes demographics, family structure/transfer, health status and functioning, biomarkers, health care and insurance, work, retirement and pension, income and consumption, assets (individual and household), and community level information. CHARLS respondents are expected to be followed up every two years. Physical measurements will also be made at every two-year follow-up, and blood sample collection is done once every two follow-up periods. Note

that Wave 2 was expected in summer 2013; however, no further details about this wave are made available online yet. For more information, see Zhao et al. (2009), Zhao et al. (2014), and http://charls.ccer.edu.cn/charls/.

- **Chinese Longitudinal Healthy Longevity Survey (CLHLS)** is a longitudinal survey of older persons in China conducted by Duke University with funding from UNFPA, the China Social Sciences Foundation, Max Planck Institute for Demographic Research, China Natural Sciences Foundation and Hong Kong Research Grants Council. The survey conducted face-to-face interviews with 8,959 individuals in 1998, 11,161 in 2000, 20,421 in 2002, 18,524 in 2005, and 19,863 in 2008-9. The latest wave of the CLHLS was conducted in 2011-12. 7,457 surviving CLHLS participants and 4,914 close family members of the deceased CLHLS participants were interviewed. Prior to 2002, the CLHLS focused on the oldest-old aged 80 and over in 22 provinces in Mainland China (nine provinces in the Northwest were excluded). From 2002 onwards, the survey incorporated young elders aged 65-79 as a comparison. At each wave, survivors were re-interviewed and deceased interviewees were replaced with new participants. Data on mortality and health status before dying for the 17,721 elders aged 65-110 who died between waves collected with interviews with a close family member of the deceased. The CLHLS has the largest sample of centenarians in the world. For more information, see Zeng (2008) and http://centerforageing.duke.edu/chinese-longitudinal-healthy-longevity-survey.
- **Longitudinal Study of the Elderly in Anhui Province** is a longitudinal survey of adults aged 60 and over in rural townships within Chaohu, a primarily agricultural city located on the north bank of Yangtze River in the central part of Anhui Province. This region was specifically chosen for its high level of out-migration of working-age adults to the provincial capital of Hefei and other cities such as Nanjing, Shanghai, and Beijing. The sample was identified by using a stratified multistage method to select potential respondents within 72 randomly selected villages within six rural townships in the Chaohu region. Village residents aged 60 and over were randomly selected for interview, with a proportionate oversampling of people aged 75 and older. The survey was conducted by the Population Research Institute of Xi'an Jiaotong University in collaboration with the University of Southern California in 2001. The sample was followed up every 2.5-3 years in 2003, 2006, 2009, and 2012. The sample consisted of 1,698 adults aged 60 and older and 4,289 grandparent and adult child pairs in which there was one grandchild under age 16.

India

- **WHO's Study on Global Ageing and Adult Health (SAGE)** is a longitudinal study with nationally representative cohorts of persons aged 50 and older in India and five other countries, with comparison samples of younger adults aged 18-49. The study focuses on health and health-related outcomes and their determinants. SAGE Wave 1 was carried out in India in 2007-8 in the states of Assam, Karnataka, Maharashtra, Rajasthan, Uttar Pradesh, and West Bengal. The sample size was 11,230. The survey was conducted by the International Institute for Population Sciences as part of the World Health Organization SAGE Project. For more information about SAGE survey instruments, please see the description for SAGE China.
- **Longitudinal Ageing Study in India (LASI)** is a nationally representative longitudinal survey of adults aged 45 and older in India. It was modeled after the Health and Retirement Study in the US and was conducted by the International Institute for Population Sciences, Harvard University, and RAND Corporation. The LASI pilot survey was carried out in 2010 in four states, including Karnataka, Kerala, Punjab, and Rajasthan. These states were chosen to capture India's regional variations and socioeconomic and cultural differences. Its sample consisted of 1,683 individuals. All age-eligible members and their spouses in sampled households were asked to be interviewed. Subsequently, the national baseline of LASI (Wave 1) was conducted in 2011 with a sample of approximately 30,000 adults in India. A follow-up study is planned for every 2 years. The LASI survey instrument has three components: (a) the household survey, which is completed by a key household informant; (b) the individual survey, administered to all age-eligible household members (and their spouses, regardless of age); and (c) the biomarker collection, which includes: anthropometric measures, blood pressure readings, vision and physical functioning tests, and collection of dried blood samples (DBS). For more information, please see Arokiasamy et al. (2012) and http://www.iipsindia.org/research_lasi.htm.

Indonesia

- **WHO-INDEPTH Study on Global Ageing and Adult Health (SAGE), Purworejo Health and Demographic Surveillance Site, 2006-7** is a representative survey of older persons carried out as part of the SAGE-INDEPTH collaboration. The survey was conducted in the Epidemiological Field Laboratory of Purworejo, a district located 60 km from Yogyakarta. Face-to-face household interviews were conducted with people aged 50 and over who lived in the Purworejo area. Its sample consisted of 12,395 persons aged 50 and over and for comparison purposes, a smaller sample of younger adults was interviewed. The abbreviated survey instrument consisted of two modules adapted from the full SAGE questionnaire: health status and associated vignette questions plus Activities of Daily Living-type questions, and questions on subjective wellbeing as

measured by the 8-item version of the WHO Quality of Life instrument. More information can be found in Kowal et al. (2010) and on the WHO website: http://www.who.int/healthinfo/sage/indepth/en/.

- **Indonesia Family Life Survey (IFLS)** is a longitudinal survey of households, individuals, and communities with detailed information about socioeconomic characteristics of the respondents. The survey was conducted in 1993, 1997, 2000, and 2007 covering a span of 14 years. The fifth wave of IFLS will be in the field in 2014-15 with projected data release in 2016. While the IFLS was not originally designed to specifically study ageing and its consequences, the 2007 wave was expanded to include questions related to ageing. The questions added were specifically selected to be comparable to questions being asked in the Health and Retirement Study and other related ageing surveys in Europe, South Korea, China, and India. While the IFLS is not directly modeled after HRS, it includes the same core concepts of health and retirement of ageing populations. The IFLS has the advantage of having detailed information of the now elderly respondents when they were younger. The 2007 IFLS is a collaborative effort of RAND, the Center for Population and Policy Studies of the University Gadjah Mada and Survey METER. More information can be found at http://www.rand.org/labor/FLS/IFLS.html.

Maldives

- **Maldives Demographic and Health Survey 2009 (MDHS)** was Maldives' first DHS survey carried out by the Ministry of Health and Family. The survey was funded by the government of Maldives, UNFPA, and UNICEF, and WHO. Technical assistance was provided by ICF Macro. MDHS is based on a stratified multistage probability sample of 7,515 households, which include 2,037 persons aged 65 and older. It was designed to produce representative data on households, women, and children for the country as a whole, for urban and rural areas, for the six geographical regions, and for each of the administrative units of the country. Four questionnaires were used for the MDHS: the Household Questionnaire, the Women's Questionnaire, the Men's Questionnaire and the Youth Questionnaire. The Household Questionnaire is designed to collect information about the characteristics of each person listed, including their age, sex, education, and relationship to the head of the household. Topics added to the Household Questionnaire include the impacts of tsunami 2004, health expenditures, and care and support for physical activities of adults aged 65 and older. More information can be found at Ministry of Health and Family and ICF Macro (2010).

Myanmar

- **Myanmar Ageing Survey 2012** is the first nationally representative survey of elderly persons conducted in Myanmar. The survey was sponsored by the HelpAge International and carried out by Myanmar Survey Research. Its sample consisted of 4,080 persons aged 60 and above throughout almost all of Myanmar. The multi-stage sampling involved selecting 60 townships and then 150 rural villages and urban wards with them. In both stages, selection was proportional to size. Only Kachin State was omitted from the survey because of security reasons. More information can be found in Myanmar Survey Research (2012). English and Burmese language versions of the resulting full and summary report on the Situation of Older Persons in Myanmar can be downloaded from HelpAge's website: http://www.helpage.org/resources/publications/

Philippines

- **Philippines Longitudinal Study of Ageing 2007** is a nationally representative survey of older adults in the Philippines conducted by the University of the Philippines Population Institute (UPPI) in collaboration with Nihon University's Population Research Institute. The survey was designed to be comparable to the Japanese Longitudinal Study of Ageing and Singaporean Longitudinal Study of Ageing. Its sample consisted of 3,105 persons aged 60 and over in Metro Manila and six provinces including Sultan Kudarat, Laguna, Bulacan, Negros Occidental, Iloilo and Eastern Samar. The survey collected information regarding basic attributes, family characteristics, economic status, support exchanges, and physical and mental health of older persons. It also gathered anthropometric measures (including height, weight, blood pressure) and vignettes. More information can be found on the UPPI website: http://www.drdf-uppi.net/plsoa.htm.

Thailand

- **National Surveys of Older Persons in Thailand** are a series of nationally representative survey conducted periodically by the National Statistical Office (NSO) in 1994, 2002, 2007, 2011, and 2014. Future plans call for NSO to conduct additional surveys of older persons every 3 years. Each round of the cross-sectional survey covered a large sample of persons aged 50 and older. The 2011 survey, for example, covered almost 63,000 respondents of whom 34,173 were aged 60 and over. The surveys provided information that allows for a continual monitoring of the social, economic, and health status of older Thais. More information can be found in Knodel, Prachuabmoh, and Chayovan (2013) and NSO (2012).

- **Panel Survey and Study on Health, Ageing, and Retirement in Thailand (HART)** is a panel study of adult Thais aged 45 and over, designed to be comparable to the US Health and Retirement Study (HRS) and the Korean Longitudinal Study of Ageing (KLoSA). The survey was conducted by researchers from the National Institute of Development Administration. The pilot survey was conducted in 2009 and subsequently in 2011 in 1,500 sampled households in Bangkok, Nonthaburi, Pathumthani, Samuthprakarn, and Khonkaen. The first wave of HART was conducted in 2014-15 and covered approximately 5,600 households in 13 provinces representative of Thailand's six regions (including Bangkok and surrounding provinces, Eastern, Central, Northeastern, Northern, and Southern regions). Individual respondents aged 45 and older were chosen using the following strategy: first from the eligible head of the household; if the head of the household is not eligible, then his/her spouse or the most eligible volunteer household members. More information can be found in Anantanasuwong and Seenprachawong (2012).
- **Survey of Health Status of Older People in Four Regions of Thailand 2006** is a nationally representative survey of older persons in Thailand conducted by the Institute of Gerontology, Medical Department, and Ministry of Public Health. Its sample consisted of 9,461 older Thais aged 60 and over in Bangkok and 20 provinces. More information is available in Ministry of Public Health (2006).
- **Survey of Risk Factors for Older Thais 2006** is a national sample of 50,058 elderly persons aged 60 and over in all 75 provinces and in 50 districts of Bangkok. The survey was conducted by the Department of Social Development and Environmental Management, National Institute of Development Administration in collaboration with the Ministry of Social Development and Human Security. It aimed to examine risk factors experienced by older Thais in the following areas: physical and mental health, physical and emotional abuse, livelihoods, hardship and insecurities, and old-age preparedness. More information can be obtained from http://consult.nida.ac.th/th/project_detail.php?id=222.

Vietnam

- **WHO-INDEPTH Study on Global Ageing and Adult Health (SAGE), FilaBavi Health and Demographic Surveillance Site, 2006-7** is a representative survey of older persons carried out as part of the SAGE-INDEPTH collaboration. The survey was conducted in the Bavi District, a rural community located 60 km of Hanoi, within the Epidemiological Field Laboratory of Bavi (FilaBavi). Face-to-face household interviews were conducted with people aged 50 and over who lived in the FilaBavi area. The interviews were performed by trained surveyors from FilaBavi using a short version of the WHO's SAGE questionnaire focusing on health status and wellbeing of older persons. Its sample consisted of 8,535 persons aged 50 and over and for comparison purposes, a

smaller sample of younger adults was interviewed. More information can be found in Kowal et al. (2010) and on the WHO website: http://www.who.int/healthinfo/sage/indepth/en/.

- **Vietnam Ageing Survey 2011** is the country's first nationally representative survey of older persons carried out under the sponsorship of the Vietnam Women's Union. Its sample consisted of 4,007 persons aged 50 and over living in 200 communes in 12 provinces representative of Vietnam's six ecological regions. More information can be found in Vietnam Women's Union (2012).

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HelpAge International helps older people claim their rights, challenge discrimination and overcome poverty, so that they can lead dignified, secure, active and healthy lives.

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